



2005 Annual Inspection Report for the Weldon Spring, Missouri, Site

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2005 Annual Inspection Report for the Weldon Spring, Missouri, Site

Summary

The Weldon Spring Site, located in St. Charles, Missouri, was inspected on November 7 and 8, 2005. The inspection was conducted in accordance with the *Long-Term Surveillance and Maintenance Plan for the Weldon Spring, Missouri, Site* (July 2005), and associated inspection checklist. Representatives from the U.S. Environmental Protection Agency (EPA) and Missouri Department of Natural Resources (MDNR) participated in the inspection. Representatives from the Weldon Spring Citizens Commission (WSCC) and the Missouri Department of Conservation (MDC) participated in portions of the inspection. The Weldon Spring Site is a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) site. This inspection also served as the five-year review inspection to support the site's CERCLA Five-Year Review Report that is required to be issued in 2006.

The main areas inspected at the site were areas where future institutional controls will be established, the Quarry, the disposal cell, Leachate Collection and Recovery System (LCRS), monitoring wells, and assorted general features.

The Institutional Control areas were inspected to ensure that pending restrictions such as excavating soil, groundwater withdrawal, residential use, etc., were not being violated. Each area was inspected and no indications of violations of future restrictions were observed.

An aerial survey of the disposal cell was flown in September 2005. This survey is required by the Long-Term Surveillance and Maintenance (LTS&M) Plan and checklist to be conducted every five years in conjunction with the 5-year review inspection. The previous aerial survey was conducted in 2003 in conjunction with the first annual LTS&M inspection. The survey results were discussed during the inspection.

The disposal cell was inspected by walking ten transects over the cell and around the cell perimeter at the grade break and the base. Hand-held global positioning system (GPS) equipment was used to navigate the ten transects. Five areas of the cell which had been marked and located by GPS survey equipment during the 2003 annual inspection were located and observed for any signs of rock degradation. The LCRS also was inspected and found to be in good condition. Each of the 119 groundwater-monitoring wells were inspected and found to be in generally good condition. Some of the wells were inspected in the weeks prior to or after the scheduled 2-day inspection. Other site features including the prairie, site markers, and roads were also inspected.

1.0 Introduction

The Weldon Spring Site is in southern St. Charles County, Missouri, approximately 30 miles west of St. Louis, as shown in [Figure 1](#). The site consists of two main areas, the Weldon Spring Chemical Plant and the Weldon Spring Quarry, both located along Missouri State Route 94.

In 1941, the U.S. Government acquired 17,232 acres (6,974 hectares) of rural land in St. Charles County to establish the Weldon Spring Ordnance Works. From 1941 to 1945, the U.S. Department of the Army (Army) manufactured trinitrotoluene (TNT) and dinitrotoluene (DNT) at the site. These operations resulted in nitroaromatic contamination of soil at the plant site, sediments in drainages originating at the site (Frog Pond Outlet and the Southeast Drainage), groundwater near the site, and some off-site springs.

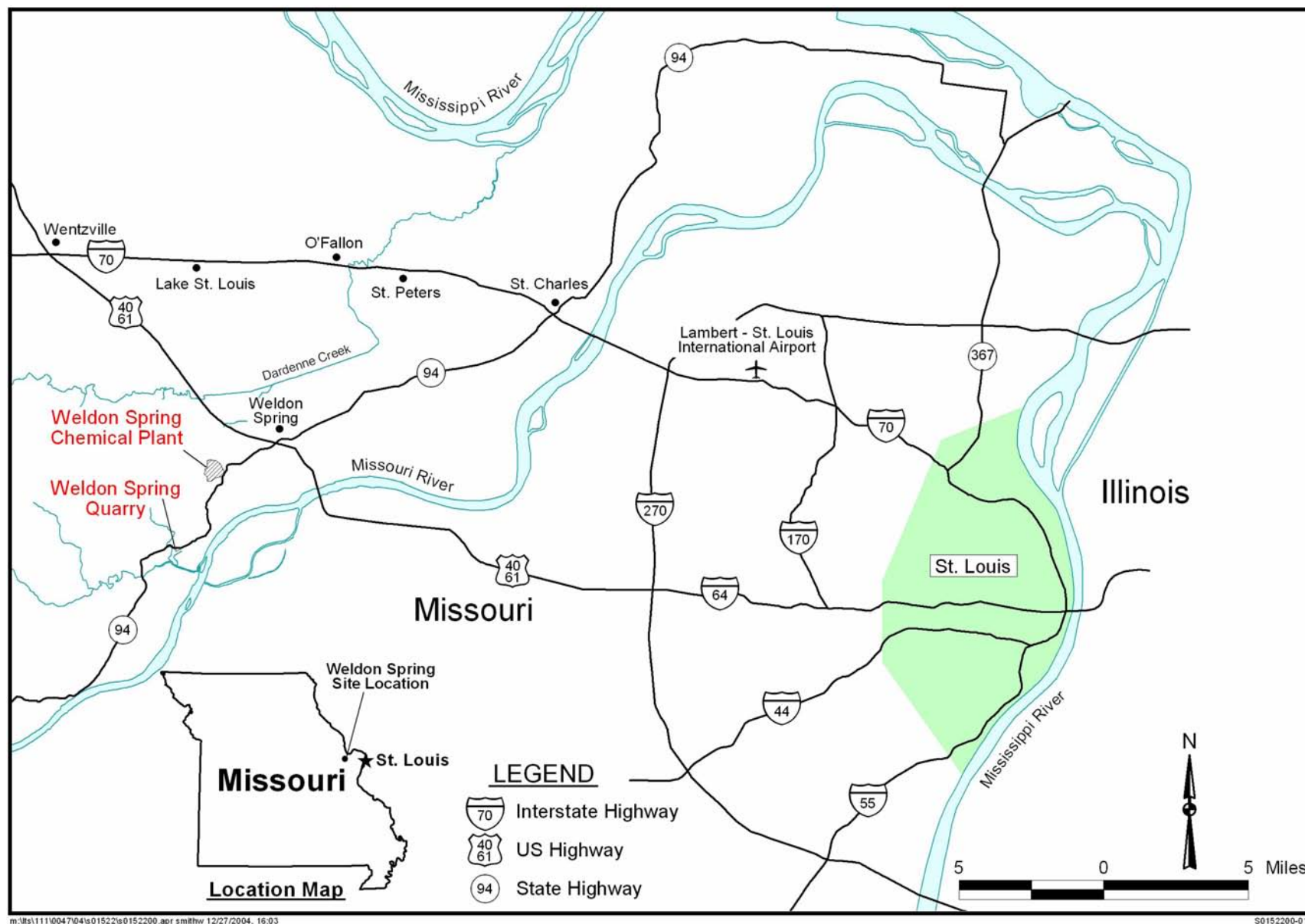


Figure 1. Location of the Weldon Spring, Missouri, Site

The former ordnance works property was transferred to the U.S. Atomic Energy Commission (AEC) in 1956 for construction of the Weldon Spring Uranium Feed Materials Plant now referred to as the Weldon Spring Chemical Plant. The plant converted processed uranium ore concentrates to pure uranium trioxide, intermediate compounds, and uranium metal. A small amount of thorium also was processed. Wastes generated during these operations were stored in four raffinate pits located on the plant property. Uranium processing operations resulted in radiological contamination of the same locations previously contaminated by former Army operations.

The Weldon Spring Quarry was mined for limestone aggregate used in construction of the ordnance works. The Army used the Quarry for burning wastes from explosives manufacturing and disposal of TNT-contaminated rubble during the operation of the ordnance works. These activities resulted in nitroaromatic contamination of the soil and in rock fractures at the Quarry, in groundwater under the Quarry, and between the Quarry and Femme Osage Slough.

In 1960, the Army transferred the Quarry to the AEC, who used it from 1963 to 1969 as a disposal area for uranium and thorium residues from the Chemical Plant (both drummed and uncontained), contaminated building rubble, process equipment, and soils from demolition of a uranium processing facility in St. Louis. Radiological contamination occurred in the same locations as the nitroaromatic contamination.

Uranium processing operations ceased in 1966 and the Quarry and Chemical Plant areas were placed on the National Priorities List in 1987 and 1989, respectively. Remediation of the Weldon Spring site was administratively divided into four Operable Units (OUs): Quarry Bulk Waste OU, Chemical Plant OU, Quarry Residuals OU, and Groundwater OU. Records of Decision for each OU have been approved. The Southeast Drainage was remediated as an interim response action through a separate engineering evaluation/cost analysis.

The remedy for the Quarry Bulk Waste OU consisted of excavating and removing bulk waste from the Quarry and transporting it along a dedicated haul road to an engineered temporary storage area located at the Chemical Plant. The Chemical Plant OU remedy included removal of contaminated soils, sludge, and sediment, treatment of wastes as appropriate by chemical stabilization/solidification and disposal of the Chemical Plant and Quarry bulk wastes in an engineered on-site disposal facility. The Quarry Residuals OU addressed residual soil contamination in the Quarry proper, surface water and sediments in the Femme Osage Slough, and contaminated groundwater. The Groundwater OU addresses the groundwater at the Chemical Plant area. The Southeast Drainage was remediated by removal of selected sediment in accessible areas of the drainage.

The final site conditions from the above remedial actions include the following:

- An on-site disposal cell contains 1.48 million cubic yards of contaminated material.
- Residual groundwater contamination remains in the shallow aquifer beneath both the Chemical Plant and Quarry.
- Several springs near the Chemical Plant area discharge residually contaminated groundwater.
- Residual soil and sediment contamination remain in the Southeast Drainage.

- Contamination remains at two culverts, one along Missouri State Route 94 and one along Highway D.
- Residual soil contamination remains at inaccessible locations within the Quarry.

The purposes of the annual inspection were to confirm the integrity of the visible features (such as disposal cell, LCRS, and monitoring wells) at the site, document the site condition subsequent to remediation and restoration, identify changes in conditions that may affect site integrity, determine if institutional controls are adequately implemented, and determine the need, if any, for maintenance or additional inspections and monitoring.

At the time of the inspection seven personnel from S.M. Stoller Corporation (Stoller), the Technical Assistance Contractor at the U.S. Department of Energy (DOE) office in Grand Junction, Colorado, were employed full-time at the site. Also employed at the site were eleven part-time contractor and subcontractor employees.

This report presents the results of the DOE annual inspection of the Weldon Spring Site. The following personnel from Stoller were the lead inspectors during the inspection:

Dick Johnson, Grand Junction, Colorado
Terri Uhlmeier, Weldon Spring Site

Dick Johnson was one of the lead inspectors for the institutional control areas and for the disposal cell inspection. He has been supporting long-term management activities for DOE low-level radioactive disposal sites for 5 years. Dick currently is serving as the DOE contractor site lead for ten disposal sites located in six states. He inspects at least 15 sites annually and prepares the inspection reports for many of those inspections. He also prepares an annual compliance report, currently addressing 5 disposal sites, to comply with U.S. Nuclear Regulatory Commission general license requirements. Dick has 9 years experience working as a hydrogeologist and performing civil engineering design and construction inspection for an engineering and architectural consulting firm. During the past 16 years his responsibilities have included radiological characterization, engineering design, remediation, demolition, disposal, verification, long-term site management, and compliance documentation for various CERCLA, Uranium Mill Tailings Radiation Control Act (UMTRA), and Decontamination and Decommissioning projects for DOE contractors. Dick Johnson has a B.S. degree in geology and an M.S. degree in geomorphology, and is a Certified Professional Geologist.

Terri Uhlmeier was one of the lead inspectors for the institutional control areas and for the disposal cell inspection. She also coordinated the inspection and preparation of this report. Terri worked for the U.S. Environmental Protection Agency for 4 years as a Resource Conservation and Recovery Act (RCRA) inspector and compliance officer, and conducted numerous inspections during that time and attended several inspection training courses. She has worked at the Weldon Spring Site for 15 years, and served as the Regulatory Compliance Manager for 11 years and was in charge of inspections at the site. She has also been involved in the CERCLA documentation, waste management, and safety aspects of the project and has prepared many reports and plans for the site. Terri Uhlmeier has a B.S. degree in Petroleum Engineering.

The following support personnel from Stoller participated in the inspection:

Randy Thompson, Weldon Spring Site

The following personnel observed the inspection and provided oversight:

Tom Pauling – DOE
Dan Wall – EPA, Region VII
Shawn Muenks – MDNR
Steve Lang - MDNR
John Vogel – MDC
Nancy Dickens – Consultant to WSCC
Tom Nelson – WSCC member
Mike Duvall – St. Charles County

The inspection was conducted in accordance with the *Long-Term Surveillance and Maintenance Plan for the Weldon Spring, Missouri, Site* (LTS&M Plan), dated July 2005.

2.0 Inspection Results

Prior to the inspection, the site inspection agenda ([Appendix A](#)) was reviewed with the inspection participants. A safety briefing was also held prior to the inspection. Following is a summary of the inspection results. The inspection base map, which includes the locations of the photographs, is included as [Figures 2 and 3](#). The checklist (from Appendix H of the LTS&M Plan) is included in this report as [Appendix B](#).

2.1 Institutional Controls (ICs) Inspection

Section 2.3.4 of the LTS&M Plan states “DOE will conduct a formal annual inspection of the physical locations addressed by ICs. DOE also will evaluate whether the ICs remain effective in protecting human health and the environment and, in coordination with EPA and MDNR, will take appropriate action if evidence indicates the controls are not effective.”

The majority of the instruments for institutional controls are still pending and not yet formally in place. The institutional controls that are in place include a Notation of Land Ownership on the Chemical Plant and Quarry Property which is filed with St. Charles County; the interpretive center; a license granting DOE permission to abandon or install and operate groundwater wells and perform sampling; and a license granting DOE continued operation and maintenance of the effluent discharge pipeline that runs from DOE property to the Missouri River and through the Katy Trail. The final LTS&M lists the following additional ICs that DOE plans to pursue:

- 1) DOE will negotiate with the surrounding affected State agency property owners to acquire easements that implement the groundwater and land use restrictions contained in the Explanation of Significant Differences (ESD), and to further enhance DOE’s access for the purpose of environmental monitoring and for surveillance of the restricted area.
- 2) DOE will coordinate with the Army to revise and reissue the Memorandum of Understanding to specify the groundwater use restrictions contained in the ESD

and to further enhance DOE's access for the purpose of environmental monitoring and for surveillance of the restricted area.

- 3) DOE will request designation as a "special area" under the Missouri Well Construction Code (10 CSR 23-3.100) to provide additional drilling protocols and construction specifications to be imposed by MDNR on any future domestic wells within the restricted areas.

During the inspection, the pending institutional control areas were inspected in accordance with the current information in the LTS&M Plan. Figures 4 and 5 are the institutional control location maps from the LTS&M Plan. As a result of a corrective action from the 2004 annual inspection, hand-held GPS units were used to navigate to various institutional control boundary markers. The GPS units were also used to navigate to several other areas of the inspection, including disposal cell transects and rock degradation test plots.

The institutional control areas are listed below as they are stated in the inspection checklist:

2.1.1 Land and Shallow Groundwater Use Within the Site Proper Boundary (Outside Disposal Cell Buffer Zone)

Inspect for indications of excavations into soil or bedrock and groundwater withdrawal or use in restricted areas. If any party has been granted use of portions of the Chemical Plant area, inspect to ensure that land use is in compliance with the terms of the restrictions within the notation.

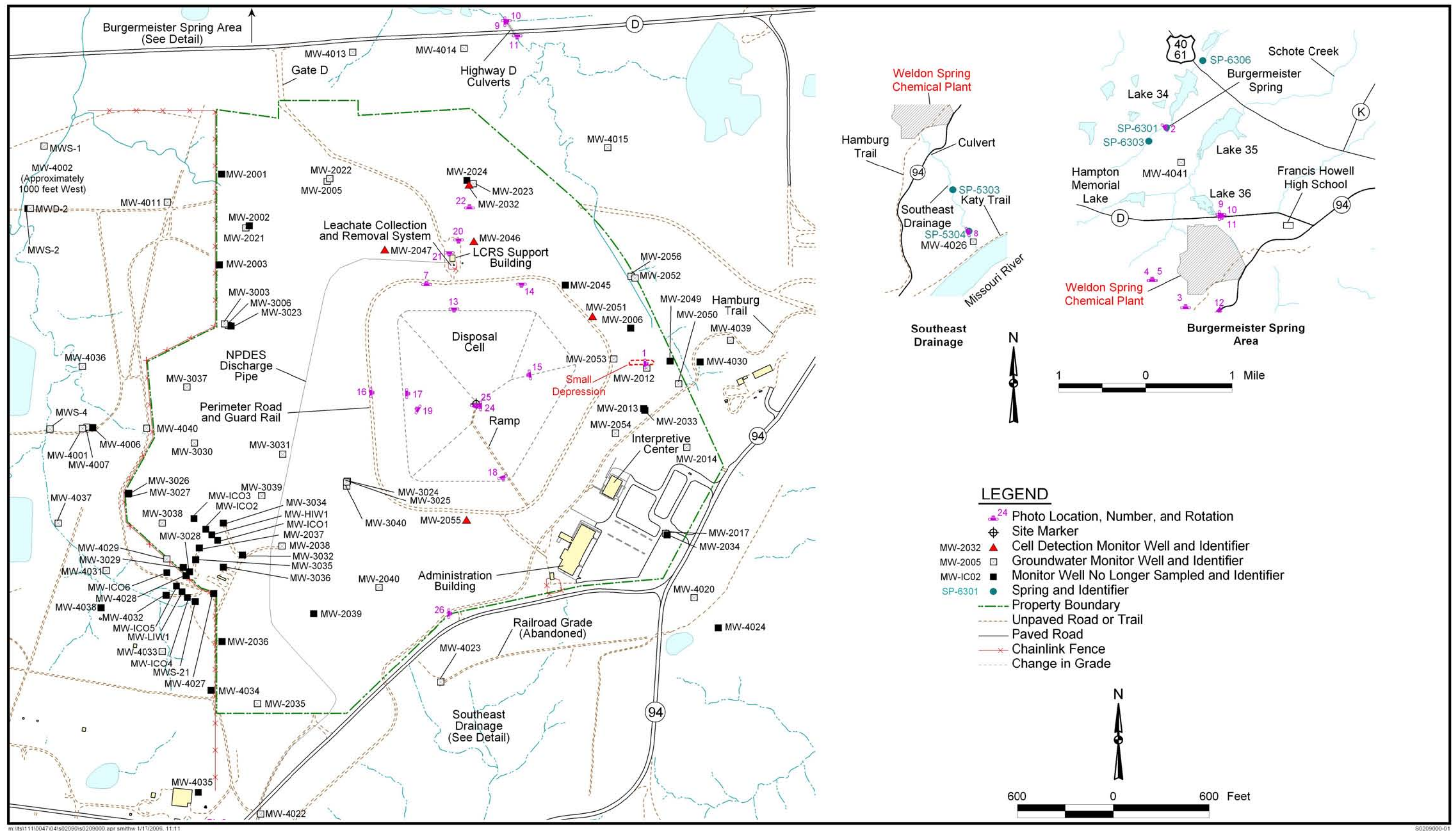
Inspection Results: This area was inspected and no indications of excavations into soil or bedrock or groundwater withdrawal or use were observed. MDC use and maintenance of the Hamburg Trail across DOE property is pending final agreement. Lindenwood University has been granted use of the Administration Building and its use is consistent with the agreement. Current land use remains consistent with the planned institutional controls.

2.1.2 Land and Shallow Groundwater Use at DOE Site Proper Disposal Cell and Buffer Zone

Inspect for indications of excavations into soils and bedrock and for residential use of the shallow groundwater within the buffer zone. Inspect to ensure that the land use continues to be in compliance with the terms of the restrictions within the notation.

Inspection Results: This area was inspected and no indications of excavations into soils and bedrock and no residential use of the shallow groundwater within the buffer zone were observed. Current land use remains consistent with planned institutional controls. The monument locations are shown in Figure 2. During the inspection two survey monuments (WS28 and WS32) and two survey pins (WS27P and WS34P) were located.

Approximately one week after the official inspection, a depression area was noted in the prairie approximately 150 feet from the disposal cell on the north side (Photo 1). The location of the depression is shown in Figure 4. It was determined this was an area of past trenching and is most likely settlement caused by inadequate compaction of the soil at the completion of trenching. The area will be evaluated to determine the best course of action to address the area.



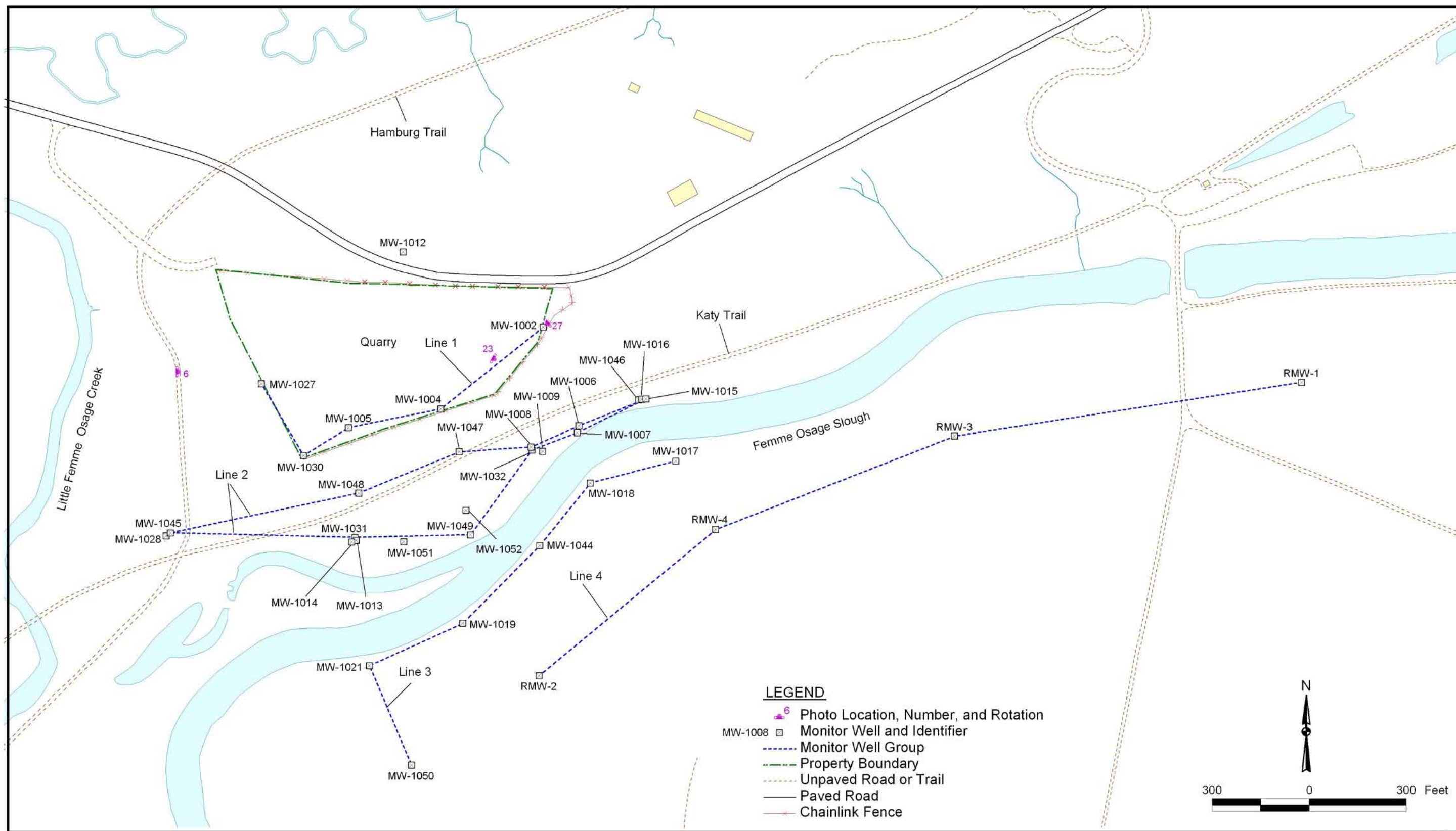
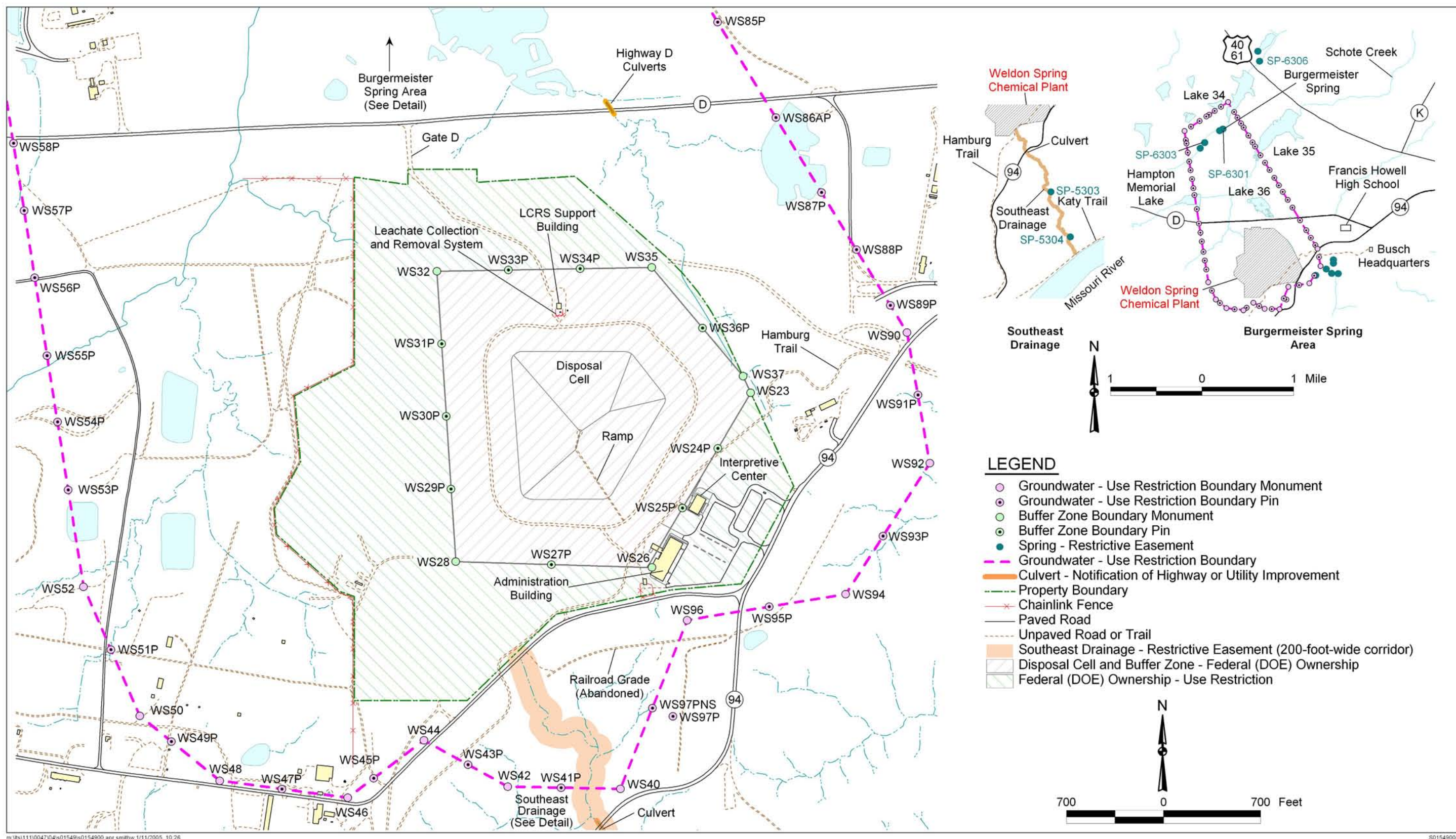


Figure 3. 2005 Inspection Map for the Quarry Area of the Weldon Spring, Missouri, Site



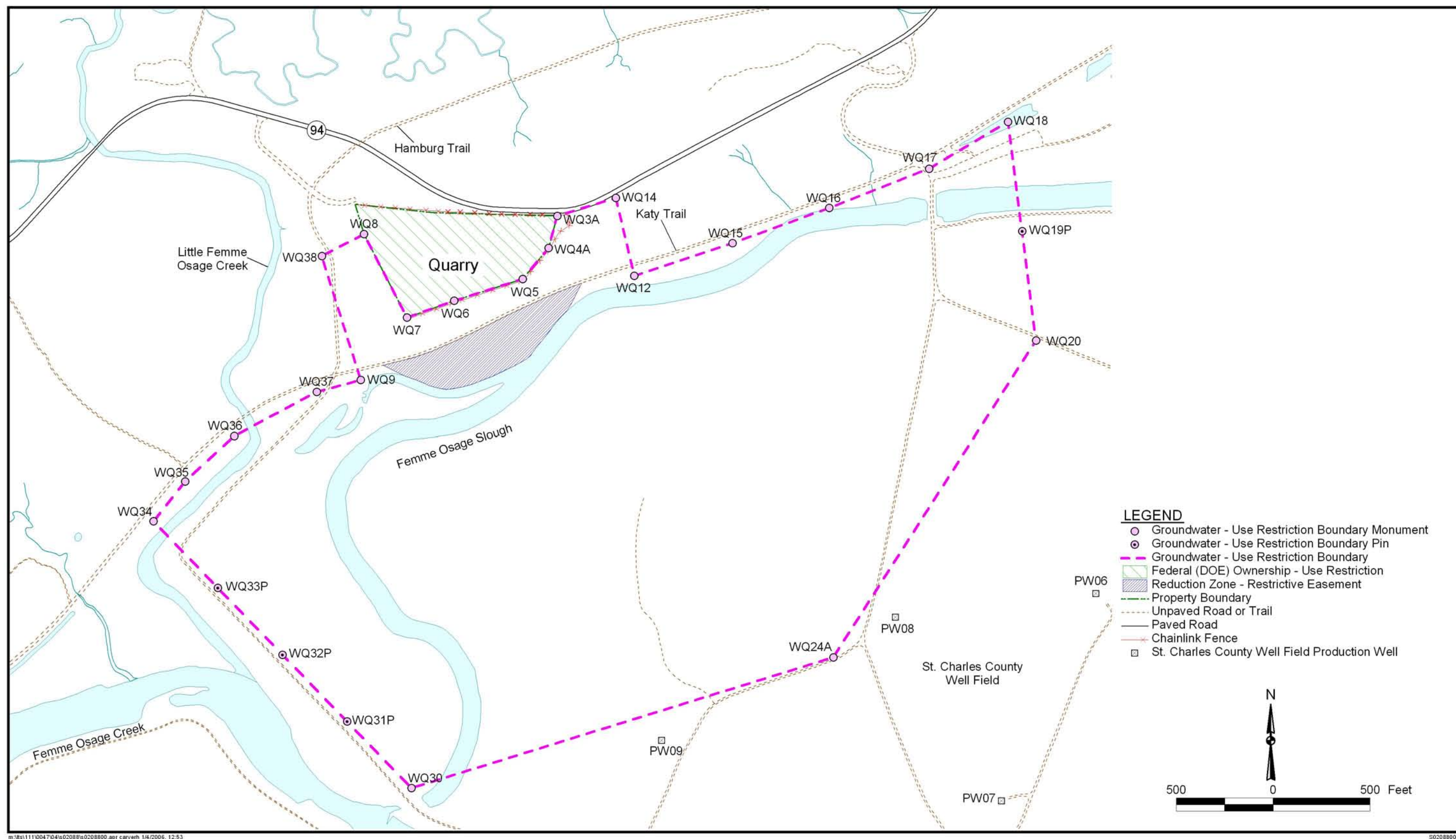


Figure 5. Institutional Controls Map for the Quarry Area of the Weldon Spring, Missouri, Site

2.1.3 Groundwater Use in Areas Surrounding the Chemical Plant

Groundwater use will be restricted in this area. Inspect affected areas for evidence of groundwater or spring water use (Burgermeister Spring and Spring 6303). Inspect to ensure that land use continues to be in compliance with the terms of the license, easement, or permit and the restrictions contained therein.

Inspection Results: The surrounding area where groundwater use will be restricted was inspected. This includes property owned by the MDC and the Army. No evidence of groundwater use was observed and current land use remains consistent with planned institutional controls on both properties. Burgermeister Spring 6301 (Photo 2) and Spring 6303 on MDC property were inspected and there were no indications of spring water use. Some survey markers were located by GPS and inspected on both properties. On the Army property, WS46 (monument), WS48 (monument), WS52 (monument), and WS53P (pin) were located during the inspection. The monument, WS46, was broken off (Photo 3). A separate monument (WS52), located about 10 yards into the woods, showed evidence that someone had tried to dig up the monument (Photo 4). This was also noted during the 2004 inspection. During the 2005 inspection, dirt was replaced around the monument (Photo 5). On the MDC property, WS73 (monument) and WS72P (pin) were located. The Chemical Plant groundwater restriction area boundary monuments are shown in Figure 4. It was also observed that six wells on the Army property did not have the DOE 24-hour contact label that the site had recently begun applying to the wells at the request of the WSCC.

2.1.4 Land and Shallow Groundwater Use on the DOE Quarry Property

Inspect for indications of excavations into soil or bedrock and groundwater withdrawal or use in restricted areas. If any party had been granted use of portions of the Quarry area, inspect to ensure that land use is in compliance with the terms of the restrictions within the notation.

Inspection Results: The Quarry Property was inspected and no indications of excavation into soil or bedrock or groundwater withdrawal or use were observed. Also, no party has been granted use of portions of the Quarry area. Quarry backfill continues to provide positive drainage from the Quarry to the Little Femme Osage Creek and vegetative cover remains well established (Photo 6). There was some erosion occurring along some of the high walls of the Quarry. This is not a concern at this time, but will be continue to be observed in the future. Current land use remains consistent with planned institutional controls.

2.1.5 Groundwater (Quarry)

Groundwater use is restricted in certain areas. Inspect affected areas for evidence of groundwater withdrawal or use in the area of impact. Inspect to ensure that land use continues to be in compliance with the terms of the license and the restrictions contained therein.

Inspection Results: The groundwater-restricted area was inspected and no evidence of groundwater withdrawal or use in the area was observed. The Quarry groundwater restriction area boundary survey monuments are shown in Figure 5. The following monuments were located during the inspection: WQ3, WQ4, WQ5, WQ6, WQ7, WQ9, WQ10, WQ12, and WQ24.

2.1.6 Land Use in Quarry Area Reduction Zone

A naturally occurring reduction zone exists in soil south of the Katy Trail and north of the Femme Osage Slough. Inspect for indications of excavations into soils and bedrock in the uranium reduction zone. Inspect to ensure that land use continues to be in compliance with the terms of the easement and the restrictions contained therein.

Inspection Results: The Quarry reduction zone area was inspected and no indications of excavation into soils and bedrock were observed. As required by the final LTS&M Plan, information signage and contact numbers were posted on monitoring wells at the Quarry Area reduction zone. The labels indicate no digging is allowed in this area and include contact numbers for DOE and MDC (Photo 7). These labels were observed during the inspection and some recommendation to improve the labels were noted. Land use remains consistent with planned institutional controls.

2.1.7 Southeast Drainage

Check for indications of residential use or construction in the Southeast Drainage (200-foot-wide-corridor), or other activity that would indicate non-recreational use of the area. Check Springs 5303 and 5304 for residential, commercial, or agricultural use of spring water.

Inspection Results: The inspectors walked down the entire Southeast Drainage and no indications of residential use or construction or any other activity that would indicate non-recreational use of the area were observed. The springs also were inspected and no indications of residential, commercial, or agricultural use of the springs were observed (Photo 8). Current land use remains consistent with planned institutional controls. Boundary monument WS39 at the lower end of the SE Drainage was located.

2.1.8 Highway D Culvert

Check for signs of disturbance of the affected region where the Frog Pond outlet culverts pass beneath Highway D and in the utility rights-of-way in the affected area.

Inspection Results: The Highway D culverts were inspected (Photo 9). During the 2003 and 2004 annual inspection the area where the outlet side of the culvert passes beneath the ditch between Highway D and the north end of the culvert had eroded on top, exposing the culverts. The Missouri Department of Transportation (MoDOT) had been notified of this condition and been sent a copy of the inspection reports. Prior to the 2005 inspection, MoDOT had been in contact with the site and stated that they were going to address the culvert. They later contacted the site and stated that they had placed gravel on the culvert. It was noted during this inspection that gravel had been placed on top of the area covering the exposed culverts (Photo 10). This effort appears to have stabilized the areas so as to minimize additional erosion. Concrete had also been placed on the outside and middle of the culverts on the inlet side to minimize erosion in those areas (Photo 11).

2.1.9 State Route 94 Culvert

Check for signs of disturbance of the affected region where the culvert passes beneath State Route 94 and in the utility rights-of-way in the affected area.

Inspection Results: The State Route 94 culvert was inspected. During the 2003 and 2004 inspections the upstream end of the culvert was substantially blocked with debris. The MoDOT had also been notified of this condition. During the 2005 inspection it was noted that the area had been cleared of debris (Photo 12).

2.1.10 Pipeline from LCRS to Missouri River

Inspect the entire length of the pipeline and outfall for any disturbance or maintenance needs.

Inspection Results: The pipeline area was inspected. GPS surveying equipment was used to establish the locations of the manholes and cleanouts. A map of the pipeline, indicating the manhole locations, is shown in [Figure 6](#). It was noted that there were no on-site disturbances of the pipeline and there were no apparent disturbances in the area of the pipeline or manholes in the off-site areas.

2.2 Disposal Cell

An aerial survey was conducted of the disposal cell for the 2005 inspection and 2006 Five Year Review Report. The LTS&M Plan and inspection checklist require this aerial survey to be conducted in conjunction with the 5-year review inspection. The survey is required to be conducted with a vertical resolution no less precise than 0.5 feet and map and survey data to be produced with the cell surface represented by 1.0-foot contour intervals. The aerial survey was flown in early September and the maps were produced in October. The contractor (Stoller) prepared maps from data provided and compared 2005 contours with 2003 contours and found numerous discrepancies between the contours showing what would be several large depressions and bulging areas in comparison between the two aerial surveys. The contractor requested that the aerial survey subcontractor re-evaluate the data for both years. The data was evaluated and it was determined that the 2003 baseline data was not correct. A letter of explanation was provided from the subcontractor ([Appendix E](#)). The data was corrected and a map was produced which showed a possible slight depression on the southwest side.

The disposal cell was inspected in accordance with the LTS&M Plan and the annual inspection checklist. The cell was divided into ten transects ([Figure 7](#)). The inspectors separated into two groups and walked five transects each; one group also walked along the grade break at the top of the side slopes and along the cell perimeter. The inspectors looked for depressions, shifts of cell plane vertices, and other indications of settlement. Other items for inspection were vegetation, wet areas, apron drains, guardrail, and the stairs. A GPS unit was used during the 2003 inspection to map five areas chosen for rock degradation review ([Figure 7](#)). The inspectors took photographs of these and compared them to photographs from the previous inspection of the same areas and observed no rock degradation. These areas are shown in Photos 13 through 17.

A few small shallow depressions on the cell cover and along the grade break were noted during the inspection. It appeared that the depressions ranged up to approximately 2 or 3 inches deep. The majority of these areas had been identified during the previous inspection(s). A few additional areas were noted on the northeast and southwest corners of the cell (Photo 18). The area identified as a depression by the aerial survey was located by GPS and it was observed that a slight depression exists in this area (Photo 19). These slight depressions are not unexpected for a disposal cell of this type and are not a cause for concern. They will continue to be monitored.

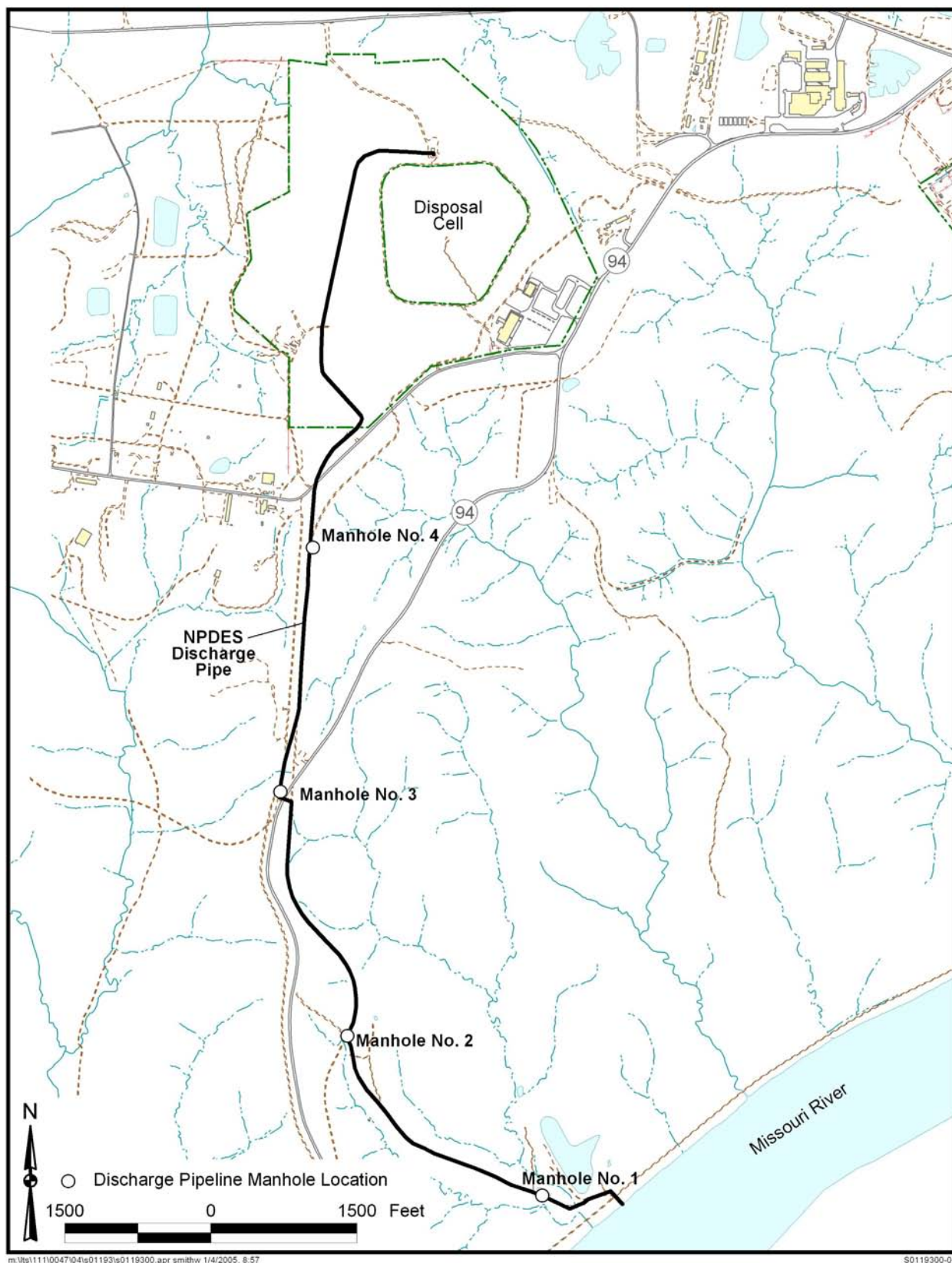


Figure 6. NPDES Discharge Pipeline Between the LCRS Support Building at the Missouri River, Weldon Spring, Missouri, Site

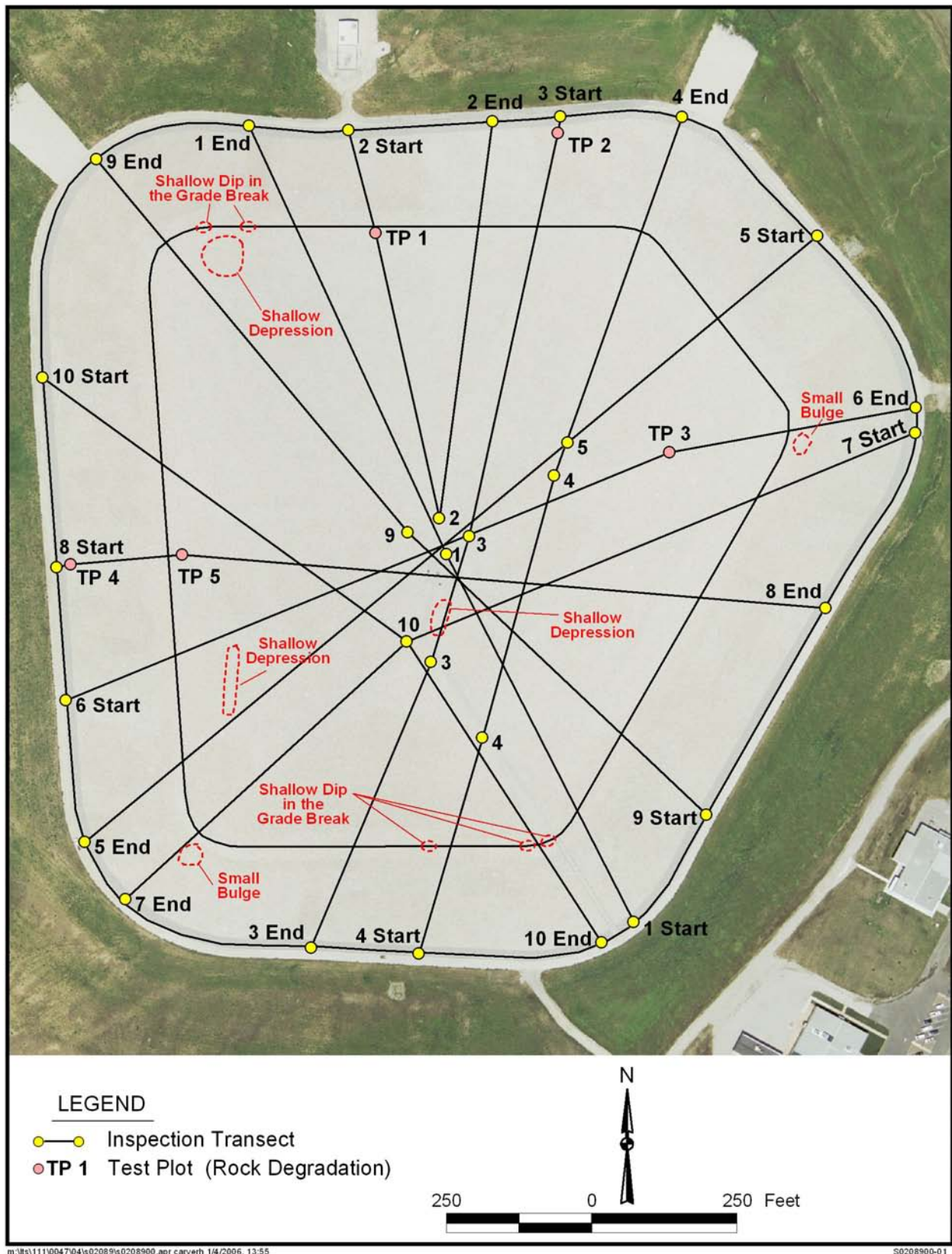


Figure 7. Disposal Cell Inspection Transects and Rock Test Plot Locations at the Weldon Spring, Missouri, Site

The small area of surface disturbance that was noted at the base of the side slope near the northwest corner of the cell during the 2004 inspection was re-evaluated and determined to not exist. This area of disturbance was initially identified by the presence of different-colored side slope rocks present on top of the toe apron. Upon further inspection, it was apparent that a small area of the side slope had not slipped to rotate the rocks.

A subcontracted engineering firm evaluated the disposal cell on September 27, 2005. The individual who performed the evaluation is a professional engineer with disposal cell and rock performance expertise. The engineer determined that the rocks on the toe apron were not a result of side slope slippage. The reasons given were:

- Rocks in question have a 6" to 8" nominal diameter and to move them on top of adjacent rocks would require at least 6" to 8" of movement.
- No longitudinal slip lines are present above the rocks in question.
- No head scarp could be located above the dislodged rocks.
- Many different colored rocks are present on the side slope probably due to different origins in the source Quarry and do not indicate movement.

In accordance with the checklist the inspectors also checked for wet areas or water drainage and observed that none were present. The toe and apron drains were inspected and found to be functioning as designed. The guardrail and stairs were in good condition. No vegetation was found on the disposal cell during the inspection.

2.3 Leachate Collection and Removal System (LCRS)

Operations of the LCRS were discussed with site personnel and the system was inspected (Photo 20). The fences and doors were locked and in good condition. The system was functioning as designed. The LCRS data and documentation were reviewed during the document review period of the inspection and the following information was checked and verified that it was available: sampling data, LCRS flow rates, action leakage rate information, "burrito" system flow rates, and leachate data. As required by the LTS&M Plan, the leachate production rates, analytical results, and disposal information are provided in [Appendix C](#).

The DOE continues to exercise its pretreatment contingency process equipment by pretreating the leachate through a system of cartridge filters and ion exchange media that is selected for uranium (Photo 21). The leachate is sampled and continues to be well below the limit for uranium. The leachate will continue to be managed in this manner until the leachate is consistently below the 20 pCi/L level for uranium.

2.4 Erosion

2.4.1 Chemical Plant Area

During the 2004 inspection, erosion areas were identified on the north and northwest sides of the disposal cell. These areas were repaired during June 6-8, 2005. A total of 32 rock boxes were constructed to prevent erosion from continuing. These rock boxes were filled with 2-inch rock and topped with 3-6 inch rock to ensure the rock would stay in place during high precipitation events. An additional 17 loads (approximately 255 tons) of 3-6 inch rock was delivered and

placed in the ditches/swales. The filled ditches provide well-drained channels for water to flow freely and no additional erosion should occur (Photo 22). A discussion of the repairs was held during the inspection and a few of the areas were inspected and found to be in good condition.

2.4.2 Quarry Area

Erosion areas were observed along some of the high walls of the Quarry during the inspection (Photo 23). These areas will continue to be monitored in the future.

2.5 General Site Conditions

General site conditions as listed in the checklist were inspected and are discussed below.

2.5.1 Roads

The roads consist of asphalt roads leading into the property and a gravel road that extends around the disposal cell and to Gate D. The roads were in good condition.

2.5.2 Vandalism

Minor vandalism has occurred at the top of the disposal cell and includes scratching on the face of the plaques and moving of rocks (Photo 24). The St. Charles County Sheriff's representative was notified of this during the annual contact interview ([Appendix D](#)) and he stated that he would notify his officers and they would conduct extra patrols and would require anybody that is there after dark to leave the premises. Also, it is planned to place larger signs at the base of the cell that state that the disposal cell viewing platform is closed at night. The vandalism will continue to be monitored. A historical marker (#10) was also found vandalized in July 2005. Two pictures from the marker had been cut out. The marker was replaced. The markers will continue to be routinely inspected.

2.5.3 Personal Injury Risks

No personal injury risks were observed.

2.5.4 Site Markers (Four Information Plaques on Top of Cell, Historical Markers, and Other Information Markers)

The four information plaques on top of the cell were generally in good condition. The faces of the bronze plaques have been scratched and a repair kit was purchased to repair the scratches. The pedestal on the south side of the viewing platform was eroded under the southeast corner (Photo 25). The historical markers were inspected prior to the inspection on October 27, 2005, and found to be in good condition. Photos were taken of each marker. Marker #3 is shown in Photo 26.

The plan also states that signs are posted on the LCRS fence to inform the public that trespassing is forbidden and that persons may call the DOE 24-hour security telephone number (970-248-6070 or 877-695-5322) for information. During the 2005 inspection, it was noted that these signs were posted on the LCRS fence.

The LTS&M Plan also states “Inspectors will verify that the phone numbers remain displayed at the Chemical Plant and Quarry sites and are listed in local phone directories.”

The phone numbers were displayed at the Chemical Plant and Quarry sites, but were not found to be in all of the local phone directories. The phone directory companies will be contacted to correct this.

2.6 Monitoring Wells

Monitoring wells in the Disposal Cell Monitoring Well Network, Chemical Plant Monitoring Well Network, and Quarry Monitoring Well Network were inspected (Photo 27). The inspection checklist required all the disposal cell wells to be inspected and greater than 10 percent of the Chemical Plant and Quarry wells to be inspected. Each of the 119-groundwater monitoring wells was inspected as a function of the 5-year review inspection. Some of the wells were inspected in the weeks prior to or after the inspection. Each well was photographed and recorded. The checklist required the wells to be inspected to ensure they are properly secured and locked, in good condition, and to check if they need maintenance and have the proper ID number on the well. All of the wells met these requirements. It should be noted that each well is at least inspected quarterly during the year when static water levels are recorded. The wells are listed below for identification purposes.

2.6.1 Disposal Cell Monitoring Well Network

Each well in the disposal cell network was inspected and is listed below:

MW-2032, 2046, 2047, 2051, 2055.

2.6.2 Chemical Plant Area Monitoring Well Network

The inspection checklist requires at least 10 percent of the wells be inspected from the Chemical Plant monitoring well network. The monitoring well network consists of 87 monitoring wells. Only forty-seven wells are monitored for the groundwater remedy of monitored natural attenuation. The remaining wells are monitored quarterly for static water levels only. The wells were all inspected and are listed below:

MW-2001, 2002, 2003, 2005, 2006, 2012, 2013, 2014, 2017, 2021, 2022, 2023, 2024, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2045, 2046, 2047, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 3003, 3006, 3023, 3024, 3025, 3026, 3027, 3028, 3029, 3030, 3031, 3032, 3034, 3035, 3036, 3037, 3038, 3039, 3040, 4001, 4002, 4006, 4007, 4011, 4013, 4014, 4015, 4020, 4022, 4023, 4024, 4026, 4027, 4028, 4029, 4030, 4031, 4032, 4033, 4034, 4035, 4036, 4037, 4038, 4039, 4040, 4041, ICO1, ICO2, ICO3, ICO4, ICO5, ICO6, H1W1, LIWI.

2.6.3 Quarry Monitoring Well Network

The inspection checklist requires greater than 10 percent of the wells in the Quarry monitoring well network to be inspected. The monitoring well network consists of 29 wells. The wells were all inspected and are listed below:

MW-1002, 1004, 1005, 1006, 1007, 1008, 1009, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1019, 1021, 1027, 1028, 1029, 1030, 1031, 1032, 1044, 1045, 1046, 1047, 1048, 1049, 1051, 1052, 1053.

The wells, RMW-1, RMW-2, RMW-3, and RMW-4, which were formerly owned by St. Charles County and are now owned by Public Water Supply District #2, were also inspected.

2.7 On-site Document and Record Verification

The following on-site documents and records were verified:

- Surveillance and Maintenance Plan: (*Long-Term Surveillance and Maintenance Plan for the Weldon Spring, Missouri, Site*, July 2005)
- As-Built Drawings: disposal cell
- Maintenance log
- Contingency Plan/Emergency Response Plan: (*Weldon Spring Site Project Safety Plan*, April 2004, Office of Land and Site Management Project Safety Plan, June 2005)
- NPDES permit(s): (#MO-0107701, revised March 5, 2004). It was discussed that the expiration date for this permit was July 13, 2005. The DOE had sent in an application to MDNR for a renewed permit in January 2005, but has not received a renewed permit to date. The site currently operates under the existing permit until MDNR issues a renewed permit.
- Metropolitan St. Louis Sewer District (MSD) agreement and records
- Groundwater monitoring records
- Leachate records
- Interpretive Center sign-in logs
- Telecons and interview records

2.8 Contacts

Several stakeholders were notified prior to the inspection in accordance with the checklist. These included:

- St. Charles County Sheriff
- Cottleville Fire District
- Francis Howell High School
- Francis Howell School District
- Simplex-Grinnel Alarm System
- Weldon Spring Citizens Commission
- St. Charles County
- Public Water Supply District #2
- Middendorf-Kriedell Library

The institutional control contacts were also contacted in regard to the inspection and to maintain annual contact with the representatives in regard to institutional controls. In the future, when the institutional controls are established, this annual contact will be used to verify cognizance of the institutional controls and the requirements and/or restrictions with each representative. The representatives contacted are listed below.

- John Vogel – Missouri Department of Conservation
- Joel Porath – Missouri Department of Conservation
- Cynthia Green – Missouri Department of Conservation
- Jennifer Frazier – Missouri Department of Natural Resources – Parks
- Roy Stevenson – Army
- Barry McFarland – Army
- Tom Ryan – Missouri Department of Transportation

The St. Charles Planning and Zoning Department was also contacted and verified that no planning and zoning activities were currently taking place within one-quarter mile of the Chemical Plant and Quarry Property. The Notation of Land Ownership was verified to be filed and present at the St. Charles Recorder of Deeds office by checking the county website at www.saintcharlescounty.org.

The Stoller Project Manager, Yvonne Deyo, and Environmental Data Manager, Randy Thompson, were interviewed as required by the inspection checklist.

All conversations and interviews were recorded on an Interview Record form from the EPA *Comprehensive Five-Year review Guidance*. The forms for each of these contacts and interviews are attached as Appendix D.

2.9 Operation and Maintenance (O&M) Costs

The fiscal year (FY) 2005 long-term surveillance and maintenance costs for the Weldon Spring Site were budgeted at \$1,309,754. The actual costs were \$1,245,935. It should be noted that a significant portion of budgeted funds was uncosted at the end of FY05.

2.10 Environmental Monitoring Data

The environmental data from the Weldon Spring Site are available on the following DOE website: www.gjo.doe.gov/LM. A quarterly internal report is issued which includes validated environmental data results for each quarter. The report includes site summary, data trending, chain-of-custody information, adequacy of quality control sample results, data assessment summaries, information on data that are outside the range of historical concentrations, and data that merit explanation or follow-up action, sampling and analytical schedules, trip reports, and sampling location maps.

Results of all environmental monitoring data are summarized and included in the Annual Site Environmental Report. The report includes data trending information and also reports on other

aspects of the project including status and regulatory information. The Annual Site Environmental Report for 2005 will be available in July 2006.

2.11 Prairie Maintenance

Section 2.6 of the Final LTS&M Plan states that routine maintenance of the prairie completed during the previous 12 months will be summarized in the annual inspection report. This summary is as follows:

A variety of prairie maintenance activities have been completed throughout the previous 12 months. In order to track the effectiveness of future invasive weed eradication efforts, infested areas were mapped early in the growing season. Areas of infestation were field-located and electronically superimposed onto an aerial photograph of the site. Later in the growing season, spot-spraying individual invasive weed plants with herbicide was performed as part of on-going efforts to reduce numbers and control encroachment of this species throughout the prairie area. The map of infested areas was utilized during this spot-spraying effort in order to streamline fieldwork. Mowing of selected areas was also performed in order to establish initial fire breaks in anticipation of a potential prescribed burn in late February or early March of 2006.

A garden of plants native to the state of Missouri was designed and constructed to surround the Interpretive Center and build awareness about the Weldon Spring Site. Garden maintenance consisting of manual weeding and occasional irrigation was performed throughout the growing season. Dried seed heads from forbs were harvested to be utilized for hand overseeding on the prairie area of the site in December 2005. An increasing number of volunteers performed garden maintenance activities throughout this period.

3.0 Findings and Recommendations

1. **Finding:** The boundary monument WS-46 was broken off.

Corrective Action: Coordinate repair of the monument.

Target Date: June 2006

2. **Finding:** Six wells on the Army property did not have the contact label applied.

Corrective Action: Apply contact labels to wells.

Target Date: March 2006

3. **Finding:** Additional signs need to be placed around the site stating that the viewing platform at the top of the disposal cell is closed at night.

Corrective Action: Purchase and install signs.

Target Date: May 2006

4. **Finding:** A few additional small depressions were observed on the disposal cell.

Corrective Action: Use the GPS equipment to locate the areas. Continue to monitor these areas.

Target Date: May 2006

5. **Finding:** The pedestal on the south side of the viewing platform was eroded under the southeast corner.

Corrective Action: Repair the erosion.

Target Date: June 2006

6. **Recommendation:** The telephone number for the site was not located in all local phone directories and the telephone number was hard to locate in some directories.

Corrective Action: Contact telephone directories and ensure the telephone number is listed correctly.

Target Date: May 2006

4.0 Photographs



Photo 1. Depression area in the prairie east of the disposal cell.



Photo 2. Burgermeister Spring



Photo 3. Groundwater restriction boundary WS-46. Monument has been broken off.



Photo 4. Groundwater restriction boundary monument WS-52. Has been dug around sides.



Photo 5. Groundwater restriction boundary monument WS-52. Dirt was replaced around monument.



Photo 6. The Quarry viewed from the Hamburg Trail. Note the successful revegetation and numerous tree samplings



Photo 7. A “No Excavation” warning sign at the leachate sump area.



Photo 8. Spring SP-5304 in the Southeast Drainage.



Photo 9. Outlet end of Highway D Culverts.



Photo 10. Gravel repair to Highway D Culverts.



Photo 11. Inlet side of Highway D Culverts. Concrete had been placed on outside and in the middle of culverts.



Photo 12. Highway 94 culvert inlet in the Southeast Drainage.



Photo 13. Cell cover rock test plot TP1; north edge of north facet.



Photo 14. Cell side slope rock test plot TP2; bottom of north side slope.



Photo 15. Cell cover rock test plot TP3; northeast ridgeline.



Photo 16. Cell cover rock test plot TP4; lower west side slope.



Photo 17. Cell cover rock test plot TP5; located on upper west side.



Photo 18. View from top looking SW towards admin bldg. Slight bulge.



Photo 19. Slight depression area shown on aerial survey on southwest side looking northwest.



Photo 20. Outside Train 3 LCRS Building.



Photo 21. Ion Exchange system for leachate treatment.



Photo 22. Erosion control repairs.



Photo 23. Walls of Quarry Proper.



Photo 24. Rocks disturbed on top of cell.



Photo 25. The platform and markers on top of the disposal cell.



Photo 26. Historical Marker #3.



Photo 27. Monitoring well MW-1002 on the Quarry rim.

Appendix A

Inspection Agenda

WSSRAP ANNUAL INSPECTION
AGENDA

Monday, November 7, 2005

8:00 – 8:30 am

Conference Room 3A planning meeting. Review agenda, inspection teams, and safe work issues. Review aerial survey information. Review inspection report and findings on last year's inspection. Inspectors/observers divide into 2 separate groups to cover 5 transects each on the disposal cell. The Team Leaders will be Terri Uhlmeier and Dick Johnson

8:30 – 11:00 am

Disposal Cell Inspection – Potential settlement, rock degradation, vegetation
Team 1: Walk 5 Transects
Team 2: Walk 5 Transects

11:00 am – 12:30 pm

Lunch (on your own)

12:30 pm – 1:00 pm

Teams 1 & 2: reconvene in Room 3A for trip to LCRS. Briefing on LCRS and Erosion Control Repairs.

1:00– 2:30 pm

Inspection of LCRS (No confined space entry planned) and erosion control repairs.

2:30 – 3:30 pm

Document and Paperwork

3:30 – 4:00 pm

Meeting in Room 3A: discuss day-1 inspection results

Tuesday, November 8, 2005

8:00 – 8:30 am

Meeting in Room 3A to review next inspection objectives. Inspectors/observers will divide into 2 separate groups. Team 1 (Team Leader - Terri Uhlmeier) will cover the Chemical Plant Area. Team 2 (Team Leader – Dick Johnson) will cover the Southeast Drainage and the Quarry Area.

8:30 – 11:30 am

Team 1: Inspect land & shallow groundwater use on Army property and DOE property:

- Monitoring wells along Army property roads
- Drive all Army roads in proposed IC area and note any land disturbance
- Disposal Cell buffer zone
- Monitoring wells on DOE Chemical Plant property

Team 2: Inspect land & shallow groundwater use on Missouri Department of Conservation property, Weldon Spring Conservation Area:

- Southeast Drainage from Army Road to Hwy 94
- Hwy 94 culvert
- Southeast Drainage from Hwy 94 to Missouri River, incl Springs 5303 & 5304

11:30 am – 1:00 pm

Lunch (On your own)

1:00 – 3:30 pm

Team 1: Inspect land & shallow groundwater use on Missouri Department of Conservation property, August A. Busch Conservation Area:

- Burgermeister Spring
- Spring 6303
- Monitoring wells along MDC roads
- Drive all MDC roads in proposed IC area and note any land disturbance
- Hwy D Culvert

Team 2: Inspect land & shallow groundwater use on Missouri Department of Conservation property, Weldon Spring Conservation Area and DOE property:

- DOE Quarry Property (Quarry rim wells)
- DOE Quarry Property (Quarry proper)
- Reduction zone area
- St. Charles County well field area

3:30 – 4:00 pm

Debriefing for DOE and Stoller management of preliminary inspection findings

Appendix B

Inspection Checklist

Annual Site Inspection Checklist

Purpose of the Checklist

This checklist has been developed from the EPA guidance document *Comprehensive Five Year Review Guidance* dated June 2001 (OSWER No. 9355.7-03B-P) and from Section 2.3 of the *Long-Term Surveillance and Maintenance Plan for the Weldon Spring, Missouri, Site*. The checklist was modified to site-specific conditions as recommended by the guidance document. The checklist will be completed annually during the Weldon Spring Site annual surveillance and maintenance inspection. The checklist will also be used to assist in compiling information for the five-year review.

I. SITE INFORMATION	
Site name: DOE Weldon Spring Site	Date(s) of inspection: Nov. 7-8, 2005
Location: St. Charles, MO	EPA ID: MO6210022830
Agencies accompanying DOE for portions of the annual inspection: <input checked="" type="checkbox"/> EPA, Region 7 <input checked="" type="checkbox"/> MDNR <input checked="" type="checkbox"/> Other (list) MDX, WSCC, St. Charles County	Weather: warm 60's sunny and partly cloudy
Remedy Includes: Disposal Cell Institutional controls Monitored Natural Attenuation Long Term Monitoring Other _____	
Inspectors <u>Terri Uhlmeier, Dick Johnson</u> Participants <u>Tom Pauling, Randy Thompson, Dan Wall, Steve Lang, Shawn Muenks, *</u>	
Attachments: <input checked="" type="checkbox"/> Inspection team roster attached (in report) <input checked="" type="checkbox"/> Site map attached (in report)	
II. INTERVIEWS (Check all that apply)	
<div style="display: flex; justify-content: space-between;"> <div> 1. Local Site Manager <u>Yvonne Deyo</u> <small>Name</small> </div> <div> <u>Project Mgr., Stoller</u> <small>Title</small> </div> <div> <u>11/2/05</u> <small>Date</small> </div> </div> Interviewed <input type="checkbox"/> at site <input checked="" type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. <u>636-300-0012</u> Problems, suggestions; <input checked="" type="checkbox"/> Report attached <u>App. D</u>	
<div style="display: flex; justify-content: space-between;"> <div> 2. Environmental Data Manager <u>Randy Thompson</u> <small>Name</small> </div> <div> <u>Data Mgr., Stoller</u> <small>Title</small> </div> <div> <u>11/2/05</u> <small>Date</small> </div> </div> Interviewed <input type="checkbox"/> at site <input checked="" type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. <u>636-926-7040</u> Check to ensure that environmental data is reviewed and trended. Problems, suggestions; <input checked="" type="checkbox"/> Report attached <u>App. D</u>	
<div style="display: flex; justify-content: space-between;"> <div> 3. Other Staff (as applicable) <u>N/A</u> <small>Name</small> </div> <div> <small>Title</small> </div> <div> <small>Date</small> </div> </div> Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. _____ Problems, suggestions; Report attached _____	

4. **Local response agencies:** Contact to notify of annual inspection and to determine if there are any concerns or issues.

Agency: St. Charles County Sheriff

Contact Jim Hudson

Name

Captain

Title

10/17/05

Date

636-949-7325

636-949-3005

Phone no.

Problems; suggestions; ☒ Report attached Discussed night visitors to the cell.

Sent an updated emergency contact list.

Agency: Cottleville Fire Department

Contact Mark Bailey

Name

Asst. Fire Chief

Title

10/24/05

Date

636-447-6655

Phone no.

Problems; suggestions; ☒ Report attached New contact. Sent updated emergency contact list.

Agency: SimplexGrinnel (LCRS and Interpretive Center Alarm Company)

Contact Emily

Name

Title

10/21/05

Date

888-746-7539

Phone no.

Problems; suggestions; ☒ Report attached Verified that they had the correct 3 people as contacts and the correct phone numbers.

Agency: _____

Contact _____

Name

Title

Date

Phone no.

Problems; suggestions; ☐ Report attached _____

5. **Stakeholders:** Contact to notify of annual inspection and to determine if there are any concerns or issues.

Agency: Francis Howell School District Contact Name: ~~Mr. Pat Houlahan, Exec. Dir. of Admin. Services~~

Contact Name Current ☐ yes ☒ no

Phone Number Current ☐ yes ☒ no 636-926-8611 (new phone no. if applicable)

Contact Rick Pavia Project Mgr. 10/28/05 636-851-4046
Name (if different than above) Title Date Phone no.

Problems; suggestions; ☒ Report attached Also contacted Francis Howell High School Principal, Pam Sloan on 10/20/05

Agency: Weldon Spring Citizens Commission Contact Name: Helene Diller, Admin. Assistant

Contact Name Current ☒ yes ☐ no

Phone Number Current ☐ yes ☒ no 636-300-0037 (new phone no. if applicable)

Contact Same 636-926-7061
Name (if different than above) Title Date Phone no.

Problems; suggestions; ☒ Report attached

Agency: St. Charles County Contact Name: Mike Duvall, Dir. of Env. Service

Contact Name Current ☒ yes ☐ no

Phone Number Current ☒ yes ☐ no (new phone no. if applicable)

Contact 10/21/05 636-949-7583
Name (if different than above) Title Date Phone no.

Problems; suggestions; ☒ Report attached

6. **Other interviews** (Prior to inspection, determine if any citizens or groups have expressed any concerns or interests in the site. Check site email and Grand Junction contact phone logs) ☒ Report attached.

1. Anna Sylvan, Documents Manager, Middendorf-Kredell Library
Contacted 11/2/05 Phone: 636-978-7926

2. Tim Geraghty, Mgr. of Eng + Ops, Public Water Supply Dist #2
Contacted 10/21/05 Phone: 636-561-3737

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. **Documents**

<input type="checkbox"/> Surveillance and Maintenance Plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
<input type="checkbox"/> As-built drawings	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
<input type="checkbox"/> Maintenance logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A

Remarks

2. **Site-Specific Health and Safety Plan**

<input checked="" type="checkbox"/> Contingency plan/emergency response plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
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Remarks

3.	Permits and Service Agreements <input type="checkbox"/> NPDES Permits <input type="checkbox"/> MSD agreement and records <input type="checkbox"/> Other permits Remarks: <u>* Permit (NPDES Permit for CWS discharge line - which is not in use) expired 7/2005. DOE sent in a renewal application in Jan. 2005, but MDNR has not acted. Permit still active.</u>	<input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Readily available <input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> Up to date <input type="checkbox"/> Up to date	<input type="checkbox"/> N/A <input type="checkbox"/> N/A <input type="checkbox"/> N/A
4.	Groundwater Monitoring Records Remarks: _____	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
5.	Leachate Records Remarks: _____	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
6.	Interpretative Center Sign-In Logs Remarks: _____	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
IV. O&M COSTS				
1.	Organization <input type="checkbox"/> DOE <input checked="" type="checkbox"/> Contractor for DOE <input checked="" type="checkbox"/> Other participants (list organizations) _____			
2.	O&M Cost Records (This information may be reviewed and completed prior to the inspection) Original O&M cost estimate: <u>\$1,309,154</u> <input type="checkbox"/> Breakdown attached Total annual cost for prior federal fiscal year: <u>1,245,935</u> From <u>10/1/2004</u> To <u>9/30/2005</u> <u>\$1,245,935</u> <input type="checkbox"/> Breakdown attached <div style="display: flex; justify-content: space-between; width: 100%;"> Date Date Total cost </div>			
3.	Unanticipated or Unusually High O&M Costs During Review Period Describe costs and reasons: <u>N/A</u> _____ _____ _____ _____			

V. INSTITUTIONAL CONTROLS

Institutional Control (IC) Inspections

- 1. Land and Shallow Groundwater Use within the Chemical Plant Site and Quarry Property**

Inspect for indications of excavations into soil or bedrock and groundwater withdrawal or use in restricted areas. If any party has been granted use of portions of the Chemical Plant or Quarry area, inspect to ensure that land use is in compliance with the terms of the restrictions within the notation.

Note any observations: No indications of excavations or groundwater withdrawal or use.

Erosion noted on high walls of quarry

Checked survey markers Buffer zone: WS 28, WS 32, WS 27 P, WS 34 P
- 2. Groundwater Use in Areas Surrounding the Chemical Plant**

Groundwater use is restricted in areas. Inspect affected areas for evidence of groundwater or spring water use (Burgermeister Spring and Spring 6303). Inspect to ensure that land use continues to be in compliance with the terms of the license, easement, or permit and the restrictions contained therein.

Note any observations: Inspected relevant areas on Army + MDC property.

No evidence of gw or springwater use. No land use changes

Survey markers - Army: WS 46 (broke), WS 48, WS 52 (dug around), WS 53 P. MDC: WS 73, WS 72 P
- 3. Groundwater (Quarry)**

Groundwater use is restricted in areas. Inspect affected areas for evidence of groundwater withdrawal or use in the area of impact. Inspect to ensure that land use continues to be in compliance with the terms of the license and the restrictions contained therein.

Note any observations: No evidence of groundwater withdrawal or use. No land use changes.

Survey markers: WQ 3, WQ 4, WQ 5, WQ 6, WQ 7, WQ 9, WQ 10, WQ 12 and WQ 24.
- 4. Land Use in Quarry Area Reduction Zone**

A naturally occurring reduction zone exists in soil south of the Katy Trail and north of the Femme Osage Slough. Inspect for indications of excavations into soils and bedrock in the uranium reduction zone. Inspect to ensure that land use continues to be in compliance with the terms of the easement and the restrictions contained therein.

Note any observations: No indications of excavations into soils or bedrock. No land use changes. No digging labels have been applied to wells in this area and were observed.
- 5. Southeast Drainage**

Check for indications of residential use or construction in the Southeast Drainage (200-foot-wide corridor), or other activity that would indicate nonrecreational use of the area. Check Springs 5303 and 5304 for residential, commercial, or agricultural use of spring water.

Note any observations: No indications of residential use or construction in the SE Drainage or other activity that would indicate nonrecreational use. No indications of use of springwater.

Survey monument WS 39 at lower end of SE Drainage was located.

6. **Highway D Culvert**

Check for signs of disturbance of the affected region where the Frog Pong outlet culverts pass beneath Highway D and in the utility rights-of-way in the affected area.

Note any observations: Gravel had been placed on the exposed culverts by MDOT (on the outlet side).

Concrete had been placed in the outside and middle of the culverts on the inlet side.

7. **State Route 94 Culvert**

Check for signs of disturbance of the affected region where the culvert passes beneath State Route 94 and in the utility rights-of-way in the affected area.

Note any observations: The culvert area had been cleared of the debris that was noted during the 2004 inspection.

8. **Pipeline from LCRS to Missouri River**

Inspect the entire length of the pipeline and outfall for any disturbances or maintenance needs.

Note any observations: The pipeline area was not disturbed.

C. Institutional Control Annual Contact Log

In accordance with the LTS&M Plan, the following will be contacted to verify cognizance of institutional controls and real estate agreements. Fill in all that apply.

1. **Agency:** Missouri Department of Conservation **Contact Name:** Joel Porath, Wildlife Regional Supv.
Address: August A. Busch Memorial Conservation Area, 2360 Highway D, St. Charles, MO 63304
Institutional Control and Real Estate Licenses to Verify: Chemical Plant Groundwater Use Restriction, Quarry Area Groundwater Use Restriction, Quarry Reduction Zone Land Use Restriction, Southeast Drainage Residential Use Restriction, North Gate Access, Well Sampling Access Agreement, Effluent Discharge Pipeline, Hamburg Trail Use Agreement.
Contact Name Current ☒ yes ☐ no
Phone Number Current ☒ yes ☐ no same (new phone no. if applicable)

Contact same same 10/24/05 636-441-4554
Name (if different than above) Title Date Phone no.

Problems; suggestions; ☒ Report attached Also contacted John Vogel, Area Manager at Busch Conservation, on 10/19/05 at 636-441-4554
2. **Agency:** Missouri Department of Conservation **Contact Name:** Cynthia Green, Realty Spec.
Address: P.O. Box 180, Jefferson City, MO 65102
Institutional Control and Real Estate Licenses to Verify: See No. 1
Contact Name Current ☒ yes ☐ no
Phone Number Current ☒ yes ☐ no same (new phone no. if applicable)

Contact same same 10/25/05 573-751-4115
Name (if different than above) Title Date Phone no.
Problems; suggestions; ☒ Report attached _____
3. **Agency:** Missouri Department of Natural Resources **Contact Name:** Jennifer Frazier, Parks Operation Off.
Address: P.O. Box 176, Jefferson City, MO 65102
Institutional Controls and Real Estate Licenses to Verify: Quarry Area Groundwater Use Restriction, Southeast Drainage Residential Use Restriction, Well Sampling Access Agreement, Effluent Discharge Pipeline
Contact Name Current ☒ yes ☐ no
Phone Number Current ☒ yes ☐ no same (new phone no. if applicable)

Contact same same 10/27/05 573-751-7987
Name (if different than above) Title Date Phone no.
Problems; suggestions; ☒ Report attached MDNR-Parks still has concerns about worker safety.

4. **Agency:** Missouri Department of Transportation **Contact Name:** Don Wichern, Asst. District Engineer
Address: 1590 Woodlake Dr., Chesterfield, MO 63017
Institutional Controls to and Real Estate Licenses to Verify: Chemical Plant Groundwater Use Restriction, and question MoDOT regarding Missouri State Highway 94 Culvert and Highway D culverts about plans for repairs/replacements.
 Contact Name Current ☐ yes ☒ no
 Phone Number Current ☐ yes ☒ no 314-340-4203 (new phone no. if applicable)
 Contact Tom Ryan Asst. District Engineer 10/25/05 314-340-4202
 Name (if different than above) Title Date Phone no.
 Problems; suggestions; ☒ Report attached _____
5. **Agency:** U.S. Dept. of Army **Contact Name:** Roy Stevenson, Facility Manager
Address: Weldon Spring Training Area, 7301 Hwy 94 S. St. Charles, MO 63304
Institutional Controls to and Real Estate Licenses to Verify: Chemical Plant Groundwater Use Restriction, Effluent Discharge Pipeline, Well Sampling Access Agreement
 Contact Name Current ☒ yes ☐ no
 Phone Number Current ☒ yes ☐ no same (new phone no. if applicable)
 Contact same same 10/20/05 636-329-1200
 Name (if different than above) Title Date Phone no.
 Problems; suggestions; ☒ Report attached Army site was turned over from Fort Leonard Wood to the 89th Regional Readiness Command.
Also contacted Barry McFarland of the 89th on 10/24/05 at
316-681-1759 x1419.
6. **Agency:** St. Charles County Recorder of Deeds
Address: 201 N 2nd, St. Charles, MO 63301
Institutional Controls to and Real Estate Licenses to Verify: Recorded real estate restrictions at the Recorder of Deeds Office or on the Internet at www.saintcharlescounty.org
 Contact N/A N/A 10/20/05
 Name Title Date Phone no.
 Problems; suggestions; ☐ Report attached Verified on the website: www.saintcharlescounty.org that the notation of land ownership was filed in Book 3754 Page 419.
7. **Agency:** St. Charles County Planning and Zoning Department **Contact Name:** Wayne Anthony
Address: 201 N 2nd, St. Charles, MO 63301
Institutional Controls to and Real Estate Licenses to Verify: Awareness of Restrictions
 Contact Name Current ☒ yes ☐ no
 Phone Number Current ☒ yes ☐ no same (new phone no. if applicable)
 Contact same same 11/3/05 636-949-7900x7221
 Name Title Date Phone no.
 Problems; suggestions; ☒ Report attached Mr. Anthony verified that there were no planning and zoning activities in the quarter mile surrounding the chemical plant and quarry.

General

1. **Land Use Changes On Site** ☐ Yes ☒ No
Remarks _____

2. **Land Use Changes Off Site** ☐ Yes ☒ No
Remarks _____

VI. GENERAL SITE CONDITIONS

1. **Roads** ☒ Location shown on site map ☒ Roads adequate
Remarks _____

2. **Vandalism** ☐ Location shown on site map ☐ No vandalism noted

Remarks Minor rock displacement at the top of the disposal cell.
Bronze plaques at top of cell have been scratched. In July 2005,
historical marker #10 was found to be vandalized and was
replaced.

3. **Personal Injury Risks** ☒ Housekeeping maintained

Remarks _____

4. **Site Markers (Four Information Plaques on Top of Cell, Historical Markers, and Other Information Markers)**

☐ Location shown on site map ☒ Legible and Secure

Remarks The 9 historical markers were inspected prior to the inspection
and were in good condition. Bronze plaques have been scratched. A repair
kit was purchased. Plaque on south side is eroding under the corner
of the pedestal.

5. **Guard Rail Around Cell** ☒ Location shown on site map

☒ Secure

Remarks _____

6.	Stairs to Top of Cell <input checked="" type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Stairs in good condition <input checked="" type="checkbox"/> Handrail stable and in good condition Remarks _____ _____ _____
7.	Other Site Conditions: Remarks _____ _____ _____ _____ _____
VII. EROSION	
1.	Chemical Plant Areas <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Erosion not evident Areal extent _____ Depth _____ Remarks <u>Erosion repairs from June 2005 were inspected</u> <u>and found to be adequate.</u> _____ _____
2.	Quarry Area <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Erosion not evident Areal extent _____ Depth _____ Remarks <u>Some erosion of the high walls of the quarry was observed.</u> <u>This will be monitored.</u> _____ _____

VIII. CHEMICAL PLANT DISPOSAL CELL

1.	Settlement/Bulges Areal extent _____	<input checked="" type="checkbox"/> Location shown on site map Depth <u>report</u>	<input type="checkbox"/> Settlement not evident
<p>A. Annually: Walk along the grade break at the top of the side slopes, around the cell perimeter, and along 10 random transects across the cell surface. Inspect for local depressions, regional departures from planar surfaces, and shifts in intersections (vertices) of cell surface planes. Inspect for vertical shear of the cover layers indicated by sudden, abrupt steps that exceed an approximately 6-inch change of surface level over no more than 10 feet distance.</p> <p>B. During 5-Year Review Inspections (Beginning 2005 and at 5-year Intervals): Conduct an aerial mapping survey with a vertical resolution not less precise than 0.5 feet. Produce and record maps and survey data for the cell surface represented by 1.0 foot contour intervals. Evaluate the data for indications of settlement. Consider the position and spacing of contour lines as indications of elevation change and possible settlement.</p> <p>Remarks <u>Inspectors walked the ten transects + observed few areas of minor settlement which are indicated in report.</u> <u>The aerial survey was flown in 9/2005 and is discussed in inspection report</u></p>			
2.	Rock Cover <input checked="" type="checkbox"/> Signs of degradation <input checked="" type="checkbox"/> Signs of intrusion		
<p>A. Annually: During settlement monitoring inspection also visually inspect for departures from original rock conditions or from the previous inspection. Note observable discoloration on areas larger than 2,500 square feet, presence of finer materials at surface and apparent rock gradation changes. Document rock conditions annually with photographs.</p> <p>B. During 5-Year Review Inspections (Beginning 2005 and at 5-year Intervals): Inspect cell cover for gradation changes by walking 10 randomly spaced transects across the cell. Concentrations of degraded, split, or weathered pieces of limestone will be mapped, photodocumented and visually assessed as a percentage of rock exposed within each mapped area. If degraded rock is evenly distributed, inspectors will estimate the overall percentage of degraded rock. If the amount of degraded rock appears to be increasing, based on a review of previous annual rock quality assessments, additional monitoring or gradation testing will be performed. If rock does not appear degraded, photodocumentation of several GPS located areas will establish rock conditions for future reference.</p> <p>Remarks <u>The 5 Rock Degradation Test Plot areas are photographed and inspected/observed annually. Photos are included in the inspection report. The rock does not appear degraded.</u></p>			
3.	Vegetative Growth <input type="checkbox"/> Weeds <input type="checkbox"/> Plants <input type="checkbox"/> Trees/Shrubs Remarks <u>None</u>		

4.	Wet Areas/Water Damage <input type="checkbox"/> Wet areas <input type="checkbox"/> Ponding <input type="checkbox"/> Seeps Remarks <u>No wet areas or water damage</u>	<input checked="" type="checkbox"/> Wet areas/water damage not evident <input type="checkbox"/> Location shown on site map Areal extent _____ <input type="checkbox"/> Location shown on site map Areal extent _____ <input type="checkbox"/> Location shown on site map Areal extent _____
5.	Toe/Apron Drains <input checked="" type="checkbox"/> Proper drainage <input type="checkbox"/> Silting <input type="checkbox"/> Evidence of erosion Remarks <u>The toe/apron drains appeared in good condition</u>	
6.	Slope Instability <input type="checkbox"/> Slides <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> No evidence of slope instability Areal extent _____ Remarks <u>The area that was thought to be a possible slide during 2004 inspection was determined not to be. See report</u>	
7.	Leachate Collection and Removal System <input checked="" type="checkbox"/> Fence/Gates/Locks in good condition <input checked="" type="checkbox"/> Properly secured/locked <input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> Routinely sampled <input checked="" type="checkbox"/> Good condition <input checked="" type="checkbox"/> ECRS flow rates <input type="checkbox"/> Flow rate issues <u>no</u> <input checked="" type="checkbox"/> Review data trending and Action Leakage Rate review <input checked="" type="checkbox"/> Sump Containment System (Burrito) flow rates <input type="checkbox"/> Burrito flow rate issues <u>no</u> <input checked="" type="checkbox"/> Alarm system functioning <input checked="" type="checkbox"/> Methane Detection System functioning <u>both removed</u> <input checked="" type="checkbox"/> Compliance with MSD Agreement <input checked="" type="checkbox"/> Review shipping records <input checked="" type="checkbox"/> Check alarm records (note any issues) <u>removed</u> Remarks _____	
8.	Condition of 300 Ft. Buffer Zone <input type="checkbox"/> Evidence of erosion (shown on map) <u>no</u> <input checked="" type="checkbox"/> Vegetative growth of woody species (show location) Remarks <u>some trees located in an area. These should be burned during burning of an area which potentially will take place in next year.</u>	
9.	Condition of Prairie <input type="checkbox"/> Evidence of erosion (shown on map) <u>no</u> <input type="checkbox"/> Vegetative growth of woody species (show location) <u>no</u> Remarks _____	
IX. GROUNDWATER MONITORING		
1.	Disposal Cell Monitor Well Network <input checked="" type="checkbox"/> Properly secured/locked <input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> Sampled in accordance with LTS&M Plan <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Evidence of surface water infiltration at casing <u>no</u> <input type="checkbox"/> Needs maintenance <u>no</u> <input checked="" type="checkbox"/> Proper ID on each well <input checked="" type="checkbox"/> Acceptable quality of data <input type="checkbox"/> Any issues with data trends (See Section II.2) <u>no</u> Remarks <u>Inspected all wells</u>	

2. **Chemical Plant Groundwater Monitor Well Network**
☒ Properly secured/locked ☒ Functioning ☒ Sampled in accordance with LTS&M Plan
☒ Good condition ☐ Evidence of surface water infiltration at casing ☒ Needs maintenance ☒
☒ Acceptable quality of data ☐ Any issues with data trends (see Section II.2) ☒
 List wells checked by number (> 10% of wells) Inspected all wells. Listed in report. Photographs were taken of each well.
 Remarks _____

3. **Quarry Monitor Well Network**
☒ Properly secured/locked ☒ Functioning ☒ Sampled in accordance with LTS&M Plan
☒ Good condition ☐ Evidence of surface water infiltration at casing ☒ Needs maintenance ☒
☒ Acceptable quality of data ☐ Any issues with data trends (see Section II.2) ☒
 List wells checked by number (> 10% of wells) Inspected all wells. Listed in inspection report. Photographs were taken of each well.
 Remarks / _____

X. OVERALL OBSERVATIONS

A. **Implementation of the Remedies**
 Describe issues and observations relating to whether the remedies are effective and functioning as designed.
No issues or observations related to the remedies were observed during the inspection. The 5-year review CERCLA report will be issued at the end of FY 2006 and will discuss these issues.

B. **Adequacy of O&M**
 Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedies.
The annual inspection is a big part of the O&M procedures and has been conducted in a well coordinated and successful manner each year. It is a good opportunity to observe maintenance and other type issues and to observe institutional controls.

C. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of one or more of the remedies may be compromised in the future.

These issues do not exist at this time.

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedies.

The hand-held GPS units used during this inspection were a good example of optimization in monitoring tasks.

Appendix C

LCRS Data

SUMMARY OF HAULED LEACHATE TO ST. LOUIS MSD FEBRUARY 2002 THROUGH SEPTEMBER 2005

		Batch #	L001	L002	L003	L004	L005	L006	L007	L008	L009	L010
		Date Hauled	4-Feb-02	8-Mar-02	5-Apr-02	8-May-02	17-Jun-02	16-Jul-02	6-Aug-02	6-Sep-02	3-Oct-02	31-Oct-02
Parameter	Units	MSD Limit										
Leachate Volume	gallons	25,000 gal/mo Combined Total****	10,000	11,168	8,557	10,981	11,387	8388	5601	9291	8524	7370
Purge Water Volume	gallons		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COD	mg/l	Monitor	27	34	26	24	15	26	36	36	28	25
TSS	mg/l	Monitor	45	28	16	12	45	53	47	68	48	50
Arsenic	mg/l	Monitor	0.0015	ND (0.0012)	ND (0.0024)	ND (0.010)	0.004	0.0032	0.0067	0.0086	0.0084	ND (0.0100)
Barium	mg/l	Monitor	0.592	0.509	0.554	0.511	0.815	0.844	0.407	1.09	1.03	1.03
Copper	mg/l	Monitor	ND (0.0054)	ND (0.0014)	ND (0.0019)	0.0074	0.0033	0.0048	ND (0.0077)	ND (0.0077)	ND (0.0077)	ND (0.0250)
Iron	mg/l	Monitor	14.1	10.1	5.68	5.01	19.4	13.2	17.3	27.9	21.7	23.8
Lead	mg/l	Monitor	ND (0.00099)	ND (0.00099)	ND (0.0021)	ND (0.003)	ND (0.0021)	ND (0.003)	ND (0.0016)	ND (0.0016)	ND (0.0016)	ND (0.0030)
Chromium	mg/l	Monitor	ND (0.00073)	ND (0.00073)	ND (0.0013)	ND (0.010)	ND (0.013)	ND (0.010)	ND (0.0020)	ND (0.0020)	ND (0.002)	ND (0.0100)
Mercury	mg/l	Monitor	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.0002)	ND (0.00010)	0.00046	0.00018	ND (0.00010)	ND (0.0001)	ND (0.0020)
Nickel	mg/l	Monitor	0.0107	0.0104	0.0069	0.0087	0.0109	0.0094	ND (0.0120)	ND (0.0120)	ND (0.0120)	ND (0.0400)
Selenium	mg/l	Monitor	ND (0.0012)	ND (0.0012)	ND (0.0022)	ND (0.005)	ND (0.0022)	ND (0.005)	ND (0.0012)	ND (1.0012)	ND (0.0012)	ND (0.0050)
Silver	mg/l	Monitor	ND (0.0070)	ND (0.0017)	ND (0.001)	ND (0.010)	ND (0.0010)	ND (0.0010)	ND (0.0060)	ND (0.0060)	ND (0.0060)	ND (1.0100)
Zinc	mg/l	Monitor	0.0277	0.0193	0.0126	0.0103	0.0109	0.0197	0.0054	0.0088	0.022	ND (0.0200)
VOA's	ug/l	Monitor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gross Alpha	pCi/l	Monitor	57.2 ± 10.0	55.8 ± 5.50	66.7 ± 5.84	64.9 ± 7.69	34.6 ± 4.70	37.7 ± 4.75	62.3 ± 11.2	28.1 ± 3.46	25.8 ± 2.91	16.8 ± 2.16
Uranium, Total	pCi/l	3000	46.8 ± 0.515	55.7 ± 0.076	57.3	34.0 ± 0.393	40.3 ± 0.745	33.4 ± 0.472	33.9 ± 0.839	31.1 ± 0.765	27.8 ± 0.684	16.0 ± 0.179
Uranium, Total Filtered	pCi/l	Monitor	47.5 ± 0.525	53.5 ± 0.562	56.3	38.9 ± 4.5	40.9 ± 0.751	35.5 ± 0.435	34.3 ± 0.846	31.0 ± 0.765	29 ± 0.724	18.4 ± 0.203
Thorium - 228	pCi/l	2000	0.336 ± 0.153	ND(0.291)	0.009 ± 0.102	ND(0.263)	0.040 ± 0.064	0.123 ± 0.133	ND (0.178)	ND (0.146)	ND (0.202)	ND (0.425)
Thorium - 230	pCi/l	1000	ND(0.620)	0.081 ± 0.113	0.326 ± 0.183	0.269 ± 0.150	ND(0.412)	0.148 ± 0.186	ND (0.318)	ND (0.360)	ND (0.511)	ND (0.780)
Thorium - 232	pCi/l	250	0.246 ± 0.122	0.051 ± 0.087	0.068 ± 0.085	ND(0.148)	0.060 ± 0.067	0.170 ± 0.129	ND (0.087)	ND (0.143)	ND (0.206)	ND (0.384)
Radium - 226	pCi/l	10	0.073 ± 0.286	0.162 ± 0.150	0.329 ± 0.265	0.315 ± 0.131	0.195 ± 0.127	0.112 ± 0.095	0.454 ± 0.138	0.497 ± 0.201	0.511 ± 0.169	0.506 ± 0.136
Radium - 228	pCi/l	30	0.455 ± 0.043	0.635 ± 0.068	0.809 ± 0.046	1.37 ± 0.050	1.31 ± 0.045	0.77 ± 0.047	ND (0.469)	ND (0.469)	ND (0.469)	ND (0.133)
Sum of the Ratios		<1.0	0.020	0.031	0.024	0.017	0.018	0.017	0.016	0.019	0.013	0.010

ND = Not Detected

() = Detection Limit

* = Batch monitoring revised to Annual Monitoring by MSD

** = No longer Required by MSD

*** = collected on 5/2/05

**** = revised to 25,000 gallons per month on 9/13/04

SUMMARY OF HAULED LEACHATE TO ST. LOUIS MSD FEBRUARY 2002 THROUGH SEPTEMBER 2005

		Batch #	L011	L012	L013	L014	L015	L016	L017	L018	L019	L020	L021
		Date Hauled	14-Nov-02	13-Dec-02	21-Jan-03	3-Mar-03	1-Apr-03	5-May-03	11-Jun-03	16-Jul-03	26-Aug-03	6-Oct-03	13-Nov-03
Parameter	Units	MSD Limit											
Leachate Volume	gallons	25,000 gal/mo Combined Total****	3004	9016	9,683	8,802	8,887	8,656	8,617	8897	9895	9000	8878
Purge Water Volume	gallons		NA	NA	0	0	0	0	101	0	107	0	88.6
COD	mg/l	Monitor	25	33	21	31	29	28	20	23	20	33	30
TSS	mg/l	Monitor	47	12	16	38.8	22	21.2	15.7	32.8	25.5	39.5	42.5
Arsenic	mg/l	Monitor	ND (0.010)	ND (0.010)	ND (0.010)	0.0043	0.0018	0.0024	0.0015	0.0038	0.0036	0.0075	0.004
Barium	mg/l	Monitor	1.07	0.743	0.803	0.975	0.829	0.811	0.784	0.996	1	1.15	1.16
Copper	mg/l	Monitor	ND (0.025)	ND (0.025)	ND (0.025)	0.0019	0.0373	0.0148	0.0013	0.0013	0.001	0..17	ND (0.000556)
Iron	mg/l	Monitor	21	4.54	6.51	18.4	10	10.7	6.14	15.2	12.6	20.5	21.6
Lead	mg/l	Monitor	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.000111)	ND (0.000111)	0.00019	ND (0.000111)	0.00087	0.00013	0..0019	0.00048
Chromium	mg/l	Monitor	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.000889)	ND (0.000889)	ND (0.00089)	ND (0.00089)	ND (000889)	ND (0.000889)	ND (0.556)	ND (0.000556)
Mercury	mg/l	Monitor	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0002)	ND (0.0002)	ND (0.002)	ND (0.0002)	ND (0.001)	ND (0.0001)	ND (0.0001)	ND (0.0001)
Nickel	mg/l	Monitor	ND (0.040)	ND (0.040)	ND (0.040)	0.0082	0.0074	0.0063	0.0055	0.0082	0.0057	0.0059	0.0072
Selenium	mg/l	Monitor	ND (0.005)	ND (0.0005)	ND (0.005)	0.00055	0.00067	0.00051	0.00057	0.00057	0.00042	0.00047	0.00056
Silver	mg/l	Monitor	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.000111)	0.00052	0.00011	ND (0.00011)	0.0002	0.0003	ND (0.00011)	ND (0.000111)
Zinc	mg/l	Monitor	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.00111)	0.0032	ND (0.00089)	ND (0.00089)	ND (0.000889)	0.0017	ND (0.00178)	ND (0.00178)
VOA's	ug/l	Monitor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gross Alpha	pCi/l	Monitor	30.0 ± 3.17	39.9 ± 3.7	31 ± 3.5	11.1 ± 6.93	14.7 ± 6.68	22.6 ± 6.89	9.48 ± 6.08	18.7 ± 9.38	11.5 ± 6.49	9.67 ± 3.69	7.76 ± 3.58
Uranium, Total	pCi/l	3000	40.2 ± 0.567	32.09 ± 0.437	33.6 ± 0.373	36.3	31.8	30.6	25.6	25.2	21.4	21.4	17.5
Uranium, Total Filtered	pCi/l	Monitor	41.0 ± 0.578	30.3 ± 0.391	34.9 ± 0.397	*	*	*	*	*	*	*	*
Thorium - 228	pCi/l	2000	ND (0.132)	ND (0.203)	0.112 ± 0.061	ND (0.16)	ND ((0.176)	ND (0.083)	ND (0.102)	ND (0.041)	ND (0.013)	ND (0.177)	ND (0.133)
Thorium - 230	pCi/l	1000	ND (0.392)	ND (0.268)	ND(0.309)	0.205 ± 0.075	0.199 ± 0.077	0.148 ± 0.054	0.144 ± 0.054	0.181 ± 0.07	0.13 ± 0.059	0.161 ± 0.072	0.294 ± 0.083
Thorium - 232	pCi/l	250	ND (0.132)	ND (0.186)	ND (0.161)	ND (0.056)	ND (0.042)	ND (0.024)	ND (0.037)	ND (0.041)	ND (0.058)	ND (0.048)	ND (0.039)
Radium - 226	pCi/l	10	0.430 ± 0.198	0.248 ± 0.132	0.359 ± 0.148	0.59 ± 0.11	0.47 ± 0.11	0.39 ± 0.09	0.42 ± 0.1	0.26 ± 0.11	0.59 ± 0.12	0.75 ± 0.12	0.63 ± 0.11
Radium - 228	pCi/l	30	ND (0.133)	1.81 ± 0.050	ND (0.133)	1.28 ± 0.54	0.99 ± 0.5	ND (0.89)	ND (0.87)	ND (0.84)	ND (0.92)	0.97 ± 0.49	ND (0.78)
Sum of the Ratios		<1.0	0.021	0.020	0.016	0.016	0.013	0.012	0.011	0.010	0.009	0.010	0.008

ND = Not Detected

() = Detection Limit

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** = No longer Required by MSD

*** = collected on 5/2/05

**** = revised to 25,000 gallons per month on 9/13/04

SUMMARY OF HAULED LEACHATE TO ST. LOUIS MSD FEBRUARY 2002 THROUGH SEPTEMBER 2005

		Batch #	L022	L023	L024	L025	L026	L027	L028	L029	L030	L031	L032
		Date Hauled	18-Dec-03	29-Jan-04	10-Mar-04	22-Apr-04	7-Jun-04	19-Jul-04	15-Sep-04	8-Dec-04	7-Mar-05	6-Jun-05	12-Sep-05
Parameter	Units	MSD Limit											
Leachate Volume	gallons	25,000 gal/mo Combined Total****	7757	9,076	8,828	8,940	8,736	8,760	11,630	16,070	17,738	16,325	15,630
Purge Water Volume	gallons		0	0	0	0	206	75	41.8	0	57	151	103
COD	mg/l	Monitor	44	35	26	32	31	22	15	16	22	21	21
TSS	mg/l	Monitor	34	22	12	30	4	23	14	6	<1.0	6	2
Arsenic	mg/l	Monitor	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.004	0.002	0.0026	0.032	ND (0.001)
Barium	mg/l	Monitor	1.03	1.01	0.883	0.991	0.859	1.1	0.812	0.75	0.681	0.975	0.782
Copper	mg/l	Monitor	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.006	0.007	ND (0.001)	ND (0.001)
Iron	mg/l	Monitor	14.2	11.7	6.9	10.6	2.82	12.9	4.8	3.25	0.078	2.45	0.319
Lead	mg/l	Monitor	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Chromium	mg/l	Monitor	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
Mercury	mg/l	Monitor	ND (0.0002)	ND (0.002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Nickel	mg/l	Monitor	ND (0.010)	0.0101	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.007)	0.006	0.0067	0.005
Selenium	mg/l	Monitor	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	0.002	ND (0.002)	ND (0.002)
Silver	mg/l	Monitor	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.001)	ND (0.001)	ND (0.0026)	ND (0.0026)
Zinc	mg/l	Monitor	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.02)	ND (0.020)	ND (0.009)	ND (0.011)	0.0327	0.005
VOA's	ug/l	Monitor	ND	ND	ND	ND	ND	ND	**	**	**	**	**
Gross Alpha	pCi/l	Monitor	10.8 ± 5.7	11.5 ± 5.3	16.8 ± 8.1	23.3 ± 9.8	22 ± 10	22 ± 12	ND (5.7)	ND (3.4)	ND (6.4)	ND (5.9)	ND (3.8)
Uranium, Total	pCi/l	3000	13.9	13.94	17.41	16.66	25.704	22.9	ND (6.8)	ND (0.41)	0.68	0.286	1
Uranium, Total Filtered	pCi/l	Monitor	*	13.06	*	*	*	*	*	*	*	1.0***	*
Thorium - 228	pCi/l	2000	ND (0.41)	ND (0.29)	ND (0.30)	ND (0.19)	ND (0.067)	ND (0.30)	ND (0.13)	ND (0.16)	ND (0.05)	ND (0.13)	ND (0.021)
Thorium - 230	pCi/l	1000	ND (0.26)	0.38 ± 0.22	0.29 ± 0.19	0.22 ± 0.16	0.34 ± 0.19	0.36 ± 0.2	0.17 ± 0.13	0.25 ± 0.16	0.35 ± 0.26	0.14 ± 0.13	0.24 ± 0.15
Thorium - 232	pCi/l	250	ND (0.30)	ND (0.14)	ND (0.2)	ND (0.12)	ND (0.1)	0.11 ± 0.12	ND (0.090)	ND (0.024)	ND (0.00)	ND (0.002)	ND (0.018)
Radium - 226	pCi/l	10	0.60 ± 0.19	0.52 ± 0.25	0.43 ± 0.18	0.69 ± 0.23	0.44 ± 0.16	0.42 ± 0.15	0.32 ± 0.19	0.58 ± 0.21	ND(0.22)	0.58 ± 0.22	0.32 ± 0.14
Radium - 228	pCi/l	30	ND (0.98)	ND (0.84)	0.96 ± 0.46	ND (0.48)	ND (0.92)	0.87 ± 0.45	1.26 ± 0.45	0.52 ± 0.6	1.23 ± 0.69	0.82 ± 0.47	1.07 ± 0.57
Sum of the Ratios			<1.0	0.007	0.007	0.009	0.008	0.011	0.011	0.004	0.002	0.003	0.003

ND = Not Detected

() = Detection Limit

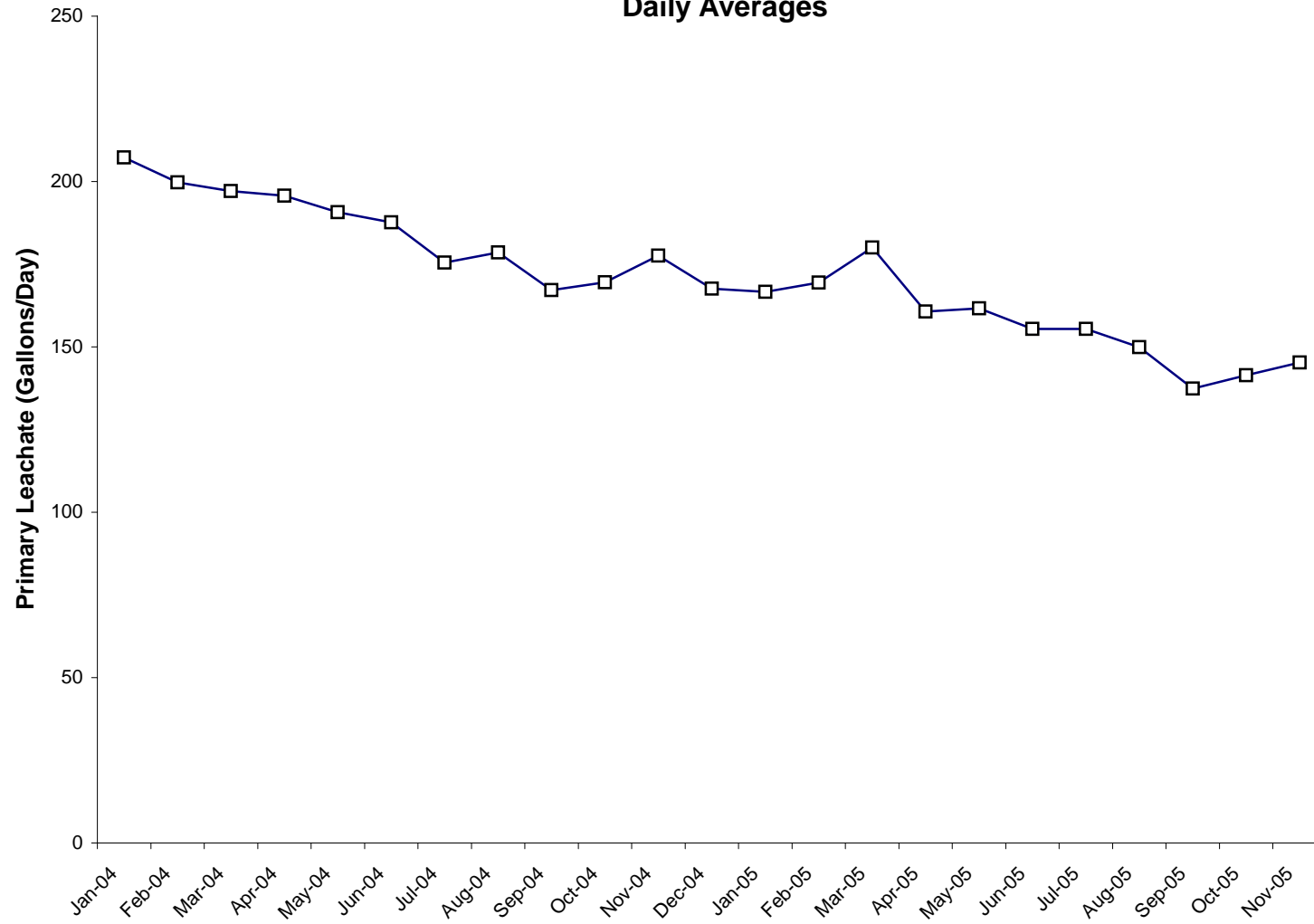
* = Batch monitoring revised to Annual Monitoring by MSD

** = No longer Required by MSD

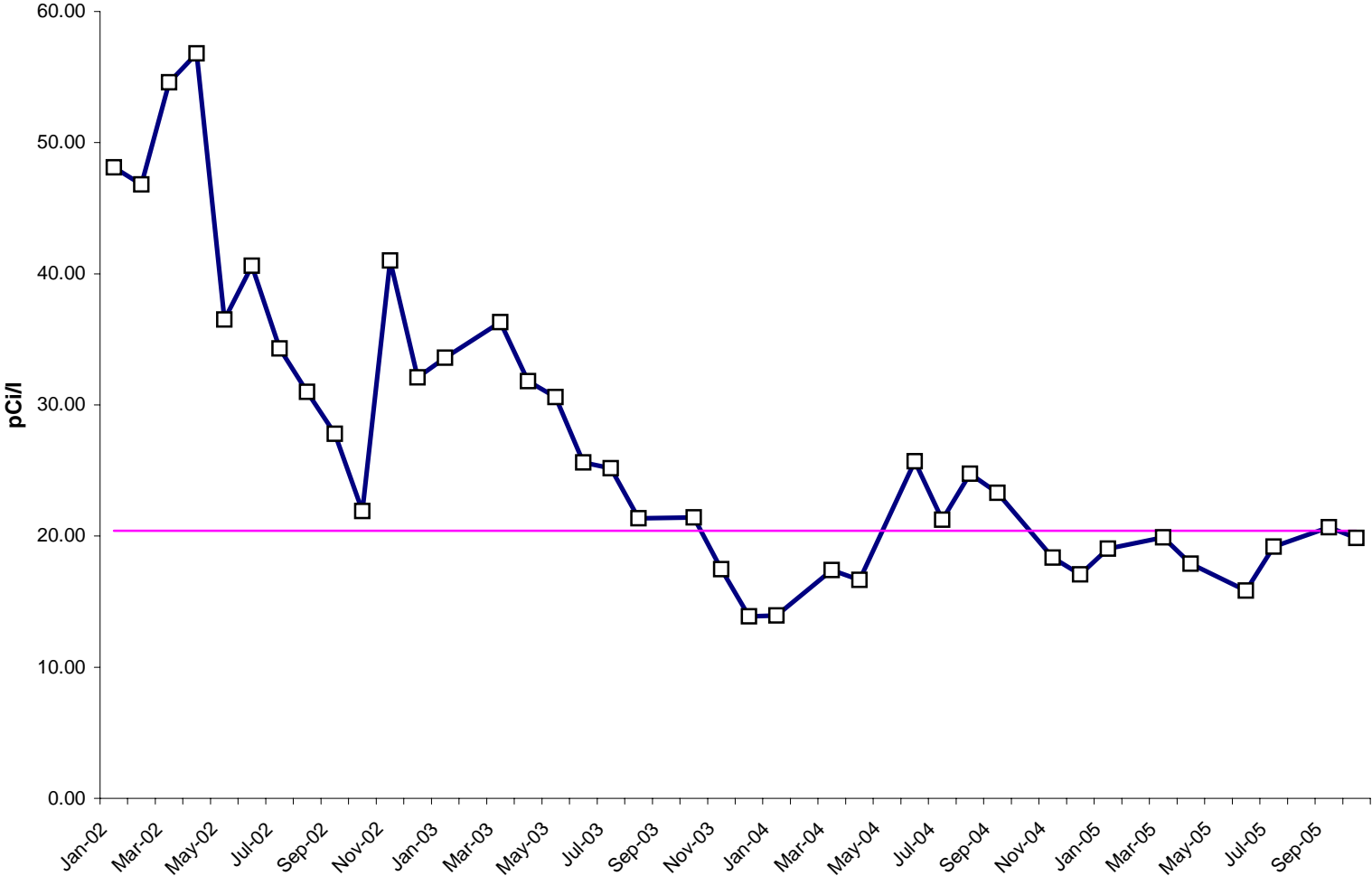
*** = collected on 5/2/05

**** = revised to 25,000 gallons per month on 9/13/04

PRIMARY LEACHATE FLOW Daily Averages



Total Uranium Levels in the Primary Leachate



Appendix D

Interviews and Contacts

INTERVIEW RECORD

Site Name: Weldon Spring Site		EPA ID No.:	
Subject: Annual Inspection		Time: 11:30 am	Date: 11/2/05
Type: <input type="checkbox"/> Telephone <input checked="" type="checkbox"/> Visit <input type="checkbox"/> Other Location of Visit: Interpretive Center		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Contact Made By:			
Name: Terri Uhlmeier	Title: Compliance Manager	Organization: S.M. Stoller, Corp.	
Individual Contacted:			
Name: Yvonne Deyo	Title: Project Manager	Organization: S.M. Stoller, Corp.	
Telephone No: 636-300-0012 Fax No: E-Mail Address:		Street Address: 7295 Hwy. 94 South City, State, Zip: St. Charles, MO 63304	
Summary Of Conversation			
<p>I interviewed Yvonne Deyo, the S.M. Stoller Project Manager at the Weldon Spring Site. The interviewing of the Project Manager is a requirement included in the Annual Inspection Checklist. Most of the interview questions were from the CERCLA Five-year Review Guidance.</p> <ol style="list-style-type: none"> 1. Current Status of the Project: Long-term surveillance and maintenance. 2. Any problems encountered with the remedies? None at this time. 3. Are the remedies functioning as expected? Yes. 4. Any vandalism or trespassing issues? Trespassing is not an issue due to the site being completely publicly accessible. Public use of the site continues to rise and minor littering occurs at various locations including at the top of the disposal cell. Minor moving of the rocks on top of the disposal cell also occurs. Defacing of the bronze plaques at the top of the cell has occurred, although this damage is easily repairable. 5. What is the current on-site presence? Describe staff and activities. There are 7 full-time contractor employees and 11 part-time contractor and subcontractor employees. Activities include long-term surveillance and maintenance operations, project management, data evaluation, operation of interpretive center, preparation of site-related regulatory documents, support in development of institutional controls, and general administrative support. Also providing support on other DOE projects, such as Mound and Fernald. 6. Any suggestions or comments regarding annual inspection? None 			

INTERVIEW RECORD

Site Name: Weldon Spring Site		EPA ID No.: MO6210022830	
Subject: Annual Inspection		Time: 10:00	Date: 10/25/05
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: Terri Uhlmeier	Title: Compliance Manager	Organization: SM Stoller, Corp.	
Individual Contacted:			
Name: Helene Diller	Title: Administrative Asst.	Organization: WSCC	
Telephone No: 636-300-0037		Street Address: 7295 Hwy. 94 South	
Fax No:		City, State, Zip: St. Charles, MO 63304	
E-Mail Address:			
Summary Of Conversation			
<p>I contacted Helene Diller, the administrative assistant for the Weldon Spring Citizens Commission, to officially notify her of the annual inspection to take place on November 7 and 8, 2005. Helene and the commission had been notified informally of the dates approximately 30 days ago, and by copy of the 30-day notice letter that was sent to the EPA and MDNR. Helene informed me that the WSCC consultant, Nancy Dickens, and a few members of the commission would be participating in the inspection. I also told Helene that I would be sending the WSCC interview questions to be answered for the 5-year review.</p>			

INTERVIEW RECORD

Site Name: Weldon Spring Site		EPA ID No.: MO6210022830	
Subject: Annual Inspection		Time: 1:15	Date: 10/24/05
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: Terri Uhlmeier	Title: Compliance Manager	Organization: SM Stoller, Corp.	
Individual Contacted:			
Name: Joel Porath	Title: Wildlife Regional Supv.	Organization: August A. Busch Memorial Conservation Area, Missouri Department of Conservation	
Telephone No: 636-441-4554		Street Address: 2360 Hwy D	
Fax No:		City, State, Zip: St. Charles, MO 63304	
E-Mail Address:			
Summary Of Conversation			
<p>I contacted Joel Porath and notified him of the Weldon Spring Site's LTS&M annual inspection on November 7 and 8, 2005. I also told him that this would serve as our 5-year review inspection and DOE would be issuing a 5-year review report next year. I discussed the pending institutional controls that DOE is working on with the MDC, such as the planned easement and the Special Use Area designation. I also told him that we had been keeping John Vogel informed of the inspection and that he would be participating in portions of the inspection.</p>			

INTERVIEW RECORD

Site Name: Weldon Spring Site		EPA ID No.: MO6210022830	
Subject: Annual Inspection		Time: 3:00	Date: 10/21/05
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: Terri Uhlmeier	Title: Compliance Manager	Organization: SM Stoller, Corp.	
Individual Contacted:			
Name: Mike Duvall	Title: Director, Env. Services	Organization: St. Charles County	
Telephone No: 636-949-7583		Street Address: 201 North Second Street, Suite 537	
Fax No:		City, State, Zip: St. Charles, MO 63301	
E-Mail Address:			
Summary Of Conversation			
<p>I contacted Mike Duvall, Director of Environmental Services for St. Charles County to notify him of the annual inspection that was going to take place on November 7 and 8, 2005. He had previously been notified of this date by copy of the letter that went to EPA and MNDR. Mr. Duvall stated that he planned to participate in the inspection. I asked him if he had any concerns or issues about the site and he stated that in his opinion it was one of the most well conducted and communicated projects in the bi-state area. We discussed the sale of the water treatment plan and well field to Public Water Supply District #2. He said the two parties were working on a strategy for transitioning the QA/QC monitoring of the well field, etc. He said that he and the County still want to stay heavily involved as a stakeholder at the site.</p>			

INTERVIEW RECORD

Site Name: Weldon Spring Site		EPA ID No.: MO6210022830	
Subject: Annual Inspection		Time: 11:15	Date: 10/20/05
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other Location of Visit:		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
Contact Made By:			
Name: Terri Uhlmeier	Title: Compliance Manager	Organization: SM Stoller, Corp.	
Individual Contacted:			
Name: Pam Sloan	Title: Principal	Organization: Francis Howell High School	
Telephone No: 636-851-4700 ext. 4840 Fax No: E-Mail Address:		Street Address: 7001 Hwy 94 South City, State, Zip: St. Charles, MO 63304	
Summary Of Conversation			
<p>I contacted Pam Sloan, Principal of Francis Howell High School, and explained that DOE would be conducting an annual Long-Term Surveillance and Maintenance inspection each year and as part of the inspection we would be contacting certain stakeholders, such as the Francis Howell High School to maintain contact with them and to determine if they had any concerns or issues about the site. I informed Ms. Sloan that our inspection this year would be on November 7 and 8, 2005 and this would also serve as our 5-year review inspection and DOE would be issuing a 5-year review report in September. I asked if she had any issues and concerns about the site and she stated that she did not. I discussed our educational programs with Ms. Sloan and told her we had many field trips and tours from schools at the site. I told her I would email her a copy of our educational program flyers. I gave her my phone number and told her to call me with any concerns or questions she might have.</p>			

INTERVIEW RECORD

Site Name: Weldon Spring Site		EPA ID No.: MO6210022830	
Subject: Annual Inspection		Time: 2:00 pm	Date: 11/03/05
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: Terri Uhlmeier	Title: Compliance Manager	Organization: SM Stoller, Corp.	
Individual Contacted:			
Name: Wayne Anthony	Title:	Organization: St. Charles Planning and Zoning Department	
Telephone No: 636-949-7900 x7221		Street Address:	
Fax No:		City, State, Zip:	
E-Mail Address:			
Summary Of Conversation			
<p>I contacted Wayne Anthony of the St. Charles Planning and Zoning Department. Mr. Anthony had been the project's previous contact in this department in regards to the county's master plan. I asked Mr. Anthony if there were any planning and zoning activities currently in the one-quarter mile surrounding the chemical plant and quarry properties. Mr. Anthony verified that there were not any such activities in this area at this time. I also asked Mr. Anthony if he would like to be added to our distribution list. He said that he would. I told him that I would send him a copy of our final Long-Term Surveillance and Maintenance Plan, which was issued in July. I told him that it included information on our institutional controls and planned restricted areas.</p>			

INTERVIEW RECORD

Site Name: Weldon Spring Site		EPA ID No.: MO6210022830	
Subject: Annual Inspection		Time: 1:00 pm	Date: 11/03/05
Type: <input type="checkbox"/> Telephone <input checked="" type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: Weldon Spring Site			
Contact Made By:			
Name: Terri Uhlmeier	Title: Compliance Manager	Organization: SM Stoller, Corp.	
Individual Contacted:			
Name: Randy Thompson	Title: Data Manager	Organization: SM Stoller, Corp.	
Telephone No: 636-926-7040		Street Address: Weldon Spring Site	
Fax No: 636-447-0803		City, State, Zip:	
E-Mail Address: randy.thompson@gjo.doe.gov			
Summary Of Conversation			
<p>I interviewed Randy Thompson, Data Manager at the Weldon Spring Site. The interviewing of the data manager is a requirement included in the Annual Inspection Checklist.</p>			
<ol style="list-style-type: none">What is the current status of data validation/reporting? Data validation and review has been completed for data through August 2005. The completion of data validation reports has been issued through March 2005 data. The April through June 2005 report is in final review and will be issued soon.How is the data reported? After qualification flags are applied, the data is put on the website the next day. We are now preparing quarterly data validation reports and the yearly data is summarized in the annual environmental report.What is the current status of the data on the website? Are we meeting our 90-day commitment as stated in the LTSM? The data reviewed and validated are completed through July 2005 and are available online. August 2005 data will be available on the website within the next week or so. Yes, we are meeting our 90-day commitment.Are there any trends that show contaminants increasing or decreasing? Some wells are trending up and some are trending down. The quarterly data validation reports discuss trends and a more thorough trend analysis is performed and documented in the annual environmental report.			

INTERVIEW RECORD

Site Name: Weldon Spring Site		EPA ID No.: MO6210022830	
Subject: Annual Inspection		Time: 10:00	Date: 10/20/05
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: Terri Uhlmeyer	Title: Compliance Manager	Organization: SM Stoller, Corp.	
Individual Contacted:			
Name: Roy Stevenson	Title: Facility Manager	Organization: Army	
Telephone No: 636-329-1200		Street Address: 7301 Hwy. 94 South	
Fax No:		City, State, Zip: St. Charles, MO 63304	
E-Mail Address:			
Summary Of Conversation			
<p>I contacted Roy Stevenson of the 89th Regional Readiness Command at the Weldon Spring Army site and notified him that DOE would be conducting the annual LTS&M inspection at the Weldon Spring Site on November 7 and 8. I also told him this would serve as our 5-year review inspection. I told him we would be driving around on the Army site and inspecting our wells and survey monuments and pins. He said we should check in at the gate and he would be there that day. I asked if there was anything going on at the Army during that time and he said there would be a group at the range and we would not be able to go in that area. I discussed the pending institutional controls that DOE is working on with the Corps, such as the revised Memorandum of Understanding (MOU) and the Special Use Area designation. We discussed the fact that the area had been turned over from Ft. Leonard Wood to the 89th Regional Readiness Command. I also asked him if the Army planned to do any road construction or changes or any other construction in the area. He said there would be road repairs, but no road construction and that the only construction would be on the range.</p>			

INTERVIEW RECORD

Site Name: Weldon Spring Site		EPA ID No.:MO6210022830	
Subject: Annual Inspection		Time: 10:00	Date: 10/21/05
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: Terri Uhlmeyer	Title: Compliance Manager	Organization: SM Stoller, Corp.	
Individual Contacted:			
Name: Emily	Title:	Organization: Simplex/Grinnell	
Telephone No: 888-746-7539		Street Address:	
Fax No:		City, State, Zip:	
E-Mail Address:			
Summary Of Conversation			
<p>I contacted Simplex/Grinnell, the alarm company for the project, and talked to Emily. I verified that they had the correct three people as contacts and that they also had the correct work, home and cell number for each person.</p>			

INTERVIEW RECORD

Site Name: Weldon Spring Site		EPA ID No.: MO6210022830	
Subject: Annual Inspection		Time: 2:30	Date: 10/17/05
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: Terri Uhlmeier	Title: Compliance Manager	Organization: SM Stoller, Corp.	
Individual Contacted:			
Name: Jim Hudson	Title: Captain	Organization: St. Charles County Sheriff Office	
Telephone No: 636-949-7325		Street Address:	
Fax No: 636-949-7525		City, State, Zip:	
E-Mail Address:			
Summary Of Conversation			
<p>I contacted Captain Jim Hudson of the St. Charles County Sheriff's Office and informed him that the annual LTS&M inspection would be taking place on November 7-8, 2005. I told him it was also our 5-year review inspection and cleanup sites are required to do 5-year reviews and we would be issuing a 5-year review report in September. I had talked to Captain Hudson last year and reminded him that we would be contacting the Sheriff's office annually to keep in contact with them and check to see if they had any issues or concerns. Captain Hudson said he did not know of any concerns at this time and did not know of any calls or issues regarding the site. I informed him that we have had visitors to the top of the cell at night and have found beer cans, etc. He said he would inform his officers and they would do extra patrols and would require anybody there to leave. He asked if we had signs stating that it was closed at night and I replied that we didn't at this time, but we do plan to get some posted soon. He thought that would be a good idea. I asked him if he felt he was being kept adequately informed about the site and he stated that he was. (He is on our distribution list). He told me that we could contact him if we had any problems and he would respond. I informed him that some of our emergency numbers had changed and I would be faxing him a new list. I faxed him the list that afternoon.</p>			

INTERVIEW RECORD

Site Name: Weldon Spring Site		EPA ID No.: MO6210022830	
Subject: Annual Inspection		Time: 3:30 pm	Date: 10/19/05
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
Location of Visit: Weldon Spring Site			
Contact Made By:			
Name: Terri Uhlmeier	Title: Compliance Manager	Organization: SM Stoller, Corp.	
Individual Contacted:			
Name: John Vogel	Title: Area Manager	Organization: August A. Busch Memorial Conservation Area, Missouri Dept. of Conservation	
Telephone No: 636-441-4554		Street Address: 2360 Hwy D	
Fax No:		City, State, Zip: St. Charles, MO 63304	
E-Mail Address:			
Summary Of Conversation			
<p>I contacted John Vogel, to notify him of the annual inspection that was going to take place on November 7 and 8, 2005. He had previously been notified of this date by copy of the letter that went to EPA and MNDR. He said bow hunting would be over by then and deer rifle hunting would not begin until November 14. He said he would like to participate in the inspection of the Southeast Drainage area again this year and I told him I would get him a copy of the agenda soon. I discussed the status of our pending institutional controls with MDC. I asked John if he knew of any land or groundwater use in the planned groundwater restriction area that had taken place that would affect the future institutional controls in that area and he stated that there had not been any of this activity. We discussed physical access to the springs and culverts for the inspection and he said it should not be a problem. I asked him if he had any concerns at this time and he said he would just like the twin culverts at Hwy. D to be repaired. I informed him of MDOT's progress on this to date.</p>			

INTERVIEW RECORD

Site Name: Weldon Spring Site		EPA ID No.: MO6210022830	
Subject: Annual Inspection		Time: 9:15	Date: 11/2/05
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: Terri Uhlmeier	Title: Compliance Manager	Organization: SM Stoller, Corp.	
Individual Contacted:			
Name: Anna Sylvan	Title: Documents Manager	Organization: Middendorf-Kredell Library	
Telephone No: 636-978-7926		Street Address: 2750 Hwy. K	
Fax No:		City, State, Zip: O'Fallon MO 63366	
E-Mail Address:			
Summary Of Conversation			
<p>I contacted Anna Sylvan, Documents Manager for the Middendorf-Kredell Library in O'Fallon, Missouri. Ms. Sylvan manages the records and documents that the project issues for public review at the library. I informed Ms. Sylvan that DOE would be conducting the Long-Term Surveillance and Maintenance annual inspection at the Weldon Spring Site on November 7-8, 2005. I further explained to her that DOE would be conducting this inspection every year and were using the opportunity this year to call her and determine if she has any concerns or issues with the records management. Ms. Sylvan stated that it has been a very harmonious relationship with DOE and the records and she has not had any problems. I set up an appointment to meet with her later that morning. I met with her at approximately 10:30 and viewed the records area. The records were all arranged orderly on shelves. Ms. Sylvan also had contact information for the site posted.</p>			

INTERVIEW RECORD

Site Name: Weldon Spring Site		EPA ID No.: MO6210022830	
Subject: Annual Inspection		Time: 2:00	Date: 10/24/05
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other Location of Visit:		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
Contact Made By:			
Name: Terri Uhlmeier	Title: Compliance Manager	Organization: SM Stoller, Corp.	
Individual Contacted:			
Name: Barry McFarland	Title: Regional Environmental Program Coordinator	Organization: Army	
Telephone No: 316-681-1759 ext. 1419 Fax No: E-Mail Address:		Street Address: 3130 George Washington Blvd. City, State, Zip: Wichita, KS 67219-1598	
Summary Of Conversation			
<p>I contacted Barry McFarland of the 89th Regional Readiness Command for the Army and notified him that DOE would be conducting the Weldon Spring Site annual LTS&M inspection on November 7 and 8, 2005. I also told him this would serve as the 5-year review inspection. I explained to him that this was more of a courtesy notification and we would be conducting this inspection every year and would use this call in the future to keep in contact with the 89th and to find out if they have any concerns or issues and to check on the status of institutional controls. I told him that I had contacted Roy Stevenson at the Weldon Spring Army Site and we would contact him when we arrived at the Army site. I discussed the pending institutional controls that DOE is working on with the Corps, such as the revised Memorandum of Understanding (MOU) and the Special Use Area designation.</p>			

INTERVIEW RECORD

Site Name: Weldon Spring Site		EPA ID No.: MO6210022830	
Subject: Annual Inspection		Time: 10:30	Date: 10/25/05
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: Terri Uhlmeier	Title: Compliance Manager	Organization: SM Stoller, Corp.	
Individual Contacted:			
Name: Cynthia Green	Title: Realty Specialist	Organization: Missouri Department of Conservation	
Telephone No: 314-751-4115		Street Address: PO Box 180	
Fax No:		City, State, Zip: Jefferson City, MO 65102	
E-Mail Address:			
Summary Of Conversation			
<p>I contacted Cynthia Green and notified her of the Weldon Spring Site's LTS&M annual inspection on November 7 and 8, 2005. I reminded her that we would be contacting all of the DOE institutional control contacts each year to discuss the ICs and inquire if there are any concerns or issues. I also told her that this would serve as the 5-year review inspection and DOE would be issuing a 5-year review report next year. I discussed the pending institutional controls that DOE is working on with the MDC, such as the planned easement and the Special Use Area designation. I also told her that I had contacted John Vogel and Joel Porath about the inspection and that John would be participating in portions of the inspection</p>			

INTERVIEW RECORD

Site Name: Weldon Spring Site		EPA ID No.: MO6210022830	
Subject: Annual Inspection		Time: 9:15	Date: 10/27/05
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: Terri Uhlmeier	Title: Compliance Manager	Organization: SM Stoller, Corp.	
Individual Contacted:			
Name: Jennifer Frazier	Title: Real Estate Manager	Organization: MDNR-Parks	
Telephone No: 573-751-7987		Street Address: PO Box 176	
Fax No:		City, State, Zip: Jefferson City, MO 65102	
E-Mail Address:			
Summary Of Conversation			
<p>I contacted Jennifer Frazier, MDNR-Parks and notified her of the LTS&M annual inspection at the Weldon Spring site on November 7 and 8, 2005. . I reminded her that we would be contacting all of the DOE institutional control contacts each year to discuss the ICs and inquire if there are any concerns or issues. Jennifer stated that as far as negotiation of ICs is concerned that Parks still has the concerns that they had previously addressed in correspondence with DOE, including worker safety, etc. We discussed a possible meeting of the two parties or the possibility of a representative attending the inspection. I told Ms. Frazier that I would send her a copy of an agenda for the inspection.</p>			

INTERVIEW RECORD

Site Name: Weldon Spring Site		EPA ID No.: MO6210022830	
Subject: Annual Inspection		Time: 2:45	Date: 10/24/05
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: Terri Uhlmeier	Title: Compliance Manager	Organization: SM Stoller, Corp.	
Individual Contacted:			
Name: Mark Bailey	Title: Assistant Fire Chief	Organization: Cottleville Fire Dept	
Telephone No: 636-447-6655 ext. 8703		Street Address: PO Box 385	
Fax No:		City, State, Zip: Cottleville, MO 63338	
E-Mail Address:			
Summary Of Conversation			
<p>I contacted Mark Bailey of the Cottleville Fire Department and informed him that DOE would be conducting the Long-Term Surveillance and Maintenance annual inspection at the Weldon Spring Site on November 7-8, 2005. Since this was the first time I have spoken to Mark, as the site's former contact had left the Cottleville Dept., I explained to him that this was more of a courtesy notification. I told him that DOE would be conducting this inspection every year and would use this call in the future to keep in contact with the Cottleville Fire Department and to find out if they have any concerns or issues. He asked about the status of the site and I discussed our current status including the status of the cleanup, number of employees, number of buildings, educational activities and field trips and informed him that Lindenwood University has taken over the building. He said he would be interested in a tour and I told him to call anytime. I also told him we had an updated emergency contact list and I would fax it to him. I faxed it to him that afternoon.</p>			

INTERVIEW RECORD

Site Name: Weldon Spring Site		EPA ID No.: MO6210022830	
Subject: Annual Inspection		Time: 9:15	Date: 10/28/05
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other Location of Visit:		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
Contact Made By:			
Name: Terri Uhlmeier	Title: Compliance Manager	Organization: SM Stoller, Corp.	
Individual Contacted:			
Name: Rick Pavia	Title: Project Manager	Organization: Francis Howell School District	
Telephone No: 636-926-8611 Fax No: E-Mail Address:		Street Address: 7055 Hwy 94 South City, State, Zip: St. Charles, MO 63304	
Summary Of Conversation			
<p>Rick Pavia contacted me in response to a message I had left for Pat Houlahan of the Francis Howell School District. Mr. Pavia stated that he would now be the contact for the district. I explained that DOE would be conducting an annual Long-Term Surveillance and Maintenance inspection at the Weldon Spring Site each year and as part of the inspection we would be contacting certain stakeholders, such as the school district to maintain contact with them and to determine if they had any concerns or issues about the site. I informed Mr. Pavia that this year's inspection would be November 7 and 8, 2005. I discussed our educational programs with Mr. Pavia and told him we had many field trips and tours from schools at the site. I told him I would email him a copy of our educational program flyers. I gave him my phone number and told him to call me with any concerns or questions he might have.</p>			

INTERVIEW RECORD

Site Name: Weldon Spring Site		EPA ID No.: MO6210022830	
Subject: Annual Inspection		Time: 3:40	Date: 10/21/05
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: Terri Uhlmeier	Title: Compliance Manager	Organization: SM Stoller, Corp.	
Individual Contacted:			
Name: Tim Geraghty	Title: Manager of Engineering and Operations	Organization: Public Water Supply District #2	
Telephone No: 636-561-3737		Street Address: PO Box 370	
Fax No:		City, State, Zip: O'Fallon, MO 63366	
E-Mail Address:			
Summary Of Conversation			
<p>I contacted Tim Geraghty of Public Water Supply District #2, and explained that DOE would be conducting an annual Long-Term Surveillance and Maintenance inspection each year at the Weldon Spring Site and as part of the inspection we would be contacting certain stakeholders to maintain contact with them and to determine if they had any concerns or issues about the site. I informed Mr. Geraghty that the inspection this year would be on November 7 and 8, 2005 and this would also serve as the site's 5-year review inspection and DOE would be issuing a 5-year review report in September. I asked Mr. Geraghty if he had any issues or concerns about the site and he stated that he did not and they would not hesitate to call us if they did. We briefly discussed the recent sale of the water treatment plant and well field from St. Charles County to PWS#2 and I told Mr. Geraghty to call us with any questions or issues and gave him my phone number.</p>			

INTERVIEW RECORD

Site Name: Weldon Spring Site		EPA ID No.: MO6210022830	
Subject: Annual Inspection		Time: 1:00	Date: 10/25/05
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: Terri Uhlmeier	Title: Compliance Manager	Organization: SM Stoller, Corp.	
Individual Contacted:			
Name: Tom Ryan	Title: Assistant District Engineer	Organization: Missouri Department of Transportation	
Telephone No: 314-340-4203		Street Address: 1590 Woodlake Dr.	
Fax No:		City, State, Zip: Chesterfield, Mo 63017	
E-Mail Address:			
Summary Of Conversation			
<p>I contacted Tom Ryan of the Missouri Department of Transportation, and explained that DOE would be conducting an annual Long-Term Surveillance and Maintenance inspection each year and as part of the inspection we would be contacting certain stakeholders to maintain contact with them and to determine if they had any concerns or issues about the site. I informed Mr. Ryan that our inspection this year would be on November 7 and 8 and this would also serve as our 5-year review inspection and DOE would be issuing a 5-year review report in September. I also reminded him that an annual inspection report would be issued approximately in January and a public meeting would be held in the Spring. We discussed the status of the repair to the Hwy D culverts.</p>			

Appendix E

Digital Mapping Correspondence



SURDEX *Geospatial Service Provider*

*Accurate Geographic Information...
From the Ground Up!*

November 1, 2005

Yvonne Deyo, Project Manager
Stoller, Inc.
7295 Hwy. 94 South
St. Charles Mo. 63304

RE: Modifications to the Surdex Digital Terrain Model (DTM) delivery for mapping of
the Disposal Cell at Weldon Spring, 2003 flight.

Dear Yvonne:

Upon completion and analysis of a 2005 flight and DTM collection for the Disposal Cell
at Weldon Spring, Surdex discovered some differences between this new set of data and
the data collected from the 2003 project. Further review conducted by Surdex revealed
the mass points and breaklines were not digitized in their correct locations. This data was
collected on a Zeiss Planicomp P-3 Analytical Stereo Plotter, on which these types of
errors were not easily detected by the standard peer review process.

Just recently, both the 2005 and revisions to the 2003 data were collected on Boeing-
Autometric First Order Softcopy Instruments. The revision to the 2003 data was
submitted to Dan Collette and should replace the previous delivery, which is no longer
considered complete. This technology displays the digitized linework on the same screen
as the stereoscopic imagery, which allows for easier detection of these types of errors.

If any additional information is required, feel free to contact me at any time.

Sincerely,

Timothy Bohm,
ASPRS Certified Photogrammetrist #1207
Project Manager
SURDEX CORPORATION